

Vol. 44 of SAXON'S "Everybody's Series."

Cloth, 6d.

Leather, 1s.

Everybody's BOOK OF The Horse.

A PRACTICAL GUIDE
FOR HORSE-KEEPERS.

BY

FRANK TOWNEND BARTON, M.R.C.V.S.

BRINDLEY & HOWE
LTD.,



PUBLISHERS,
LONDON,
E.C.

ALL Saxon's "Everybody's Series" bear the Registered
Trade Mark, King Alfred's Jewel. Reject Imitations.

NOW READY. One Hundred and Fourth Edition.

CONSIDERABLY ENLARGED AND REVISED.

Making the total issue to date

One Million Three Hundred and Seventy-eight Thousand Copies!!!

Containing 448 pp. of closely printed information.

Price HALF-A-CROWN net.

Or Presentation Edition, Extra Gilt, Gilt Edges,
3/6 net.

Enquire Within :: Upon Everything.

This remarkable Book, by far the most popular
amongst Household Works of Reference,

HAS RECENTLY BEEN

**Much Enlarged, Thoroughly Revised
and brought Up-to-Date.**

MADGWICK, HOULSTON & Co., Ltd.
4 Ave Maria Lane, London, E.C.

Cloth 6d.

gen-Bar
Leather 1/-

960th Thousand.

EVERYBODY'S

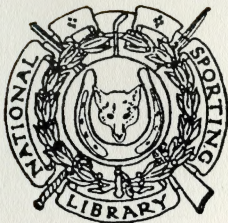
Pocket ==
Cyclopædia

OF

Things Worth Knowing,
Things Difficult to Remember,
and Tables of Reference.

By DON LEMON.

MADGWICK, HOULSTON & Co., Ltd.
4 Ave Maria Lane, London, E.C.



THE NATIONAL SPORTING LIBRARY
MIDDLEBURG, VIRGINIA
ACQUIRED 2011

THE GIFT OF

Carleton Huff

Everybody's Book of the Horse

A Practical Guide
for Horsekeepers

FRANK TOWNEND BARTON, Vet. Surgeon.

ILLUSTRATED FROM PHOTOGRAPHS
BY G. PARSONS.

LONDON :
BRINDLEY & HOWE,
LTD.,
4 LUDGATE CIRCUS,
E.C.



PUBLISHERS
OF
SAXON & CO.'S

"Everybody's" Series
and
"Much in Little" Series.

All Rights reserved.

R. W. SIMPSON AND CO., LTD.,
PRINTERS,
RICHMOND, LONDON.

CONTENTS.

CHAPTER I.

HINTS ABOUT THE STABLES.

What is the best Bedding for Horses?—Cleaning a Horse—
Is Clipping Beneficial?—Care of the Mane and the Tail—
Bandages and Clothing—Watering Horses—Man's Duty
towards the care of Animals.

CHAPTER II.

FOODS AND FEEDING.

Feeding Sick Horses.

CHAPTER III.

PURGATIVE MEDICINE.

Administering Medicine to Horses—Counter Irritants
and the Cautery.

CHAPTER IV.

HEAVY HORSES.

The Clydesdale—The Shire Horse—The Hackney.

CHAPTER V.

THE PONIES.

Welsh Ponies—Shetland Ponies—Exmoor Ponies—Dartmoor
Ponies—Rum or Galloway Ponies—New Forest Ponies—
Connemara Ponies.

CHAPTER VI.

JUDGING AGE BY INSPECTION OF THE TEETH.

Points of the Horse.

CHAPTER VII.

BUYING A HORSE.

CHAPTER VIII.

DISEASES OF THE RESPIRATORY APPARATUS.

Acute Congestion of the Lungs—Pneumonia—Broken
Wind—Roaring—Catarrh—Sore-Throat—
Strangles—Influenza—Glanders.

CHAPTER IX.

SOME DISEASES OF THE DIGESTIVE APPARATUS.

Introduction—Colic—Inflammation of the Bowels—
Concretions—Rupture of the Stomach—Jaundice
or Biliousness—Worms in the Intestines.

CHAPTER X.

VARIOUS DISEASES AFFECTING THE HORSE.

Diabetes—Azoturia—Lymphangitis—Epizootic
Lymphangitis—Cape Horse Sickness—Mange—Cracked
Heels—Ophthalmia.

CHAPTER XI.

DISEASES AFFECTING THE BONES, JOINTS
AND TENDONS.

Fractures—Wounds—Dislocations—Dislocation or Luxation
of the Patella, or Knee Cap—Speedy-Cut—Sore Shins—Sprain
of the Fetlock Joint—Bone-Spavin—Wind Gall—Splint—
Brushing or Interfering—Bruised Coronet—Quittor—Sprain
of the Back Tendons—Ring-Bone—Curb—Capped-Hock—
Capped Elbow—Thoro Pin.

CHAPTER XII.

DISEASES AFFECTING THE FEET.

Introduction—Laminitis, Founder, or Inflammation of the Feet—Canker of the Foot—Thrush of the Foot—Sandcrack—False-Quarter—Side-Bone—Navicular Disease.

CHAPTER XIII.

HORSE SHOES, PADS, AND LEATHERS, ETC.

CHAPTER XIV.

HORSE BREEDING.

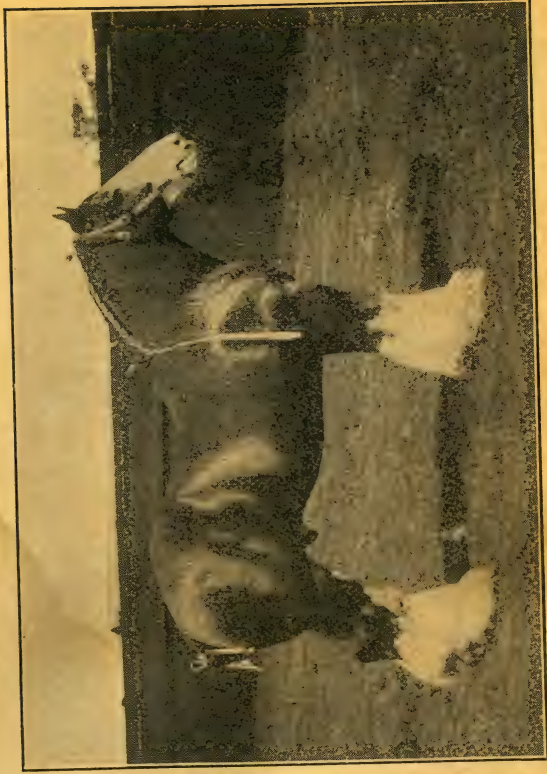


Photo by G. H. Parsons.

SHIRE STALLION.

The Book of the Horse.

CHAPTER I.

HINTS ABOUT THE STABLES.

UNFORTUNATELY for many horses, the construction and sanitary arrangements of the stable are of the worst possible kind; in fact, the worst conditions towards the preservation of health are not uncommonly present. At one time drainage, ventilation and light were evidently not thought necessary, and horse owners seem to have believed that those responsible were the best judges of the animals' requirements. The whole stable was, and still is in many cases, surcharged with decomposing animal excreta and emanations of the most pestilential nature. The roof, walls, floor and ventilation are most important matters for consideration in the construction of a stable. As temporary erections, wooden houses do very well if heavily tarred and have their roofs of tiles, in preference to that of corrugated iron. The material last named is not suitable for the construction of stable walls. A slated roof is perhaps

the best of all. The extraction tube—the outlet of the impure air—should be in the roof, and the inlet for pure air at the windows.

It is surprising how quickly the air in a stable becomes foul if its constant interchange with the atmosphere is hindered.

Bricks, concrete or stone form the best materials for the walls, whilst for the floor there is nothing to supersede roughened concrete, or what is still better, concrete that has shallow longitudinal grooves formed on its whole surface.

This forms a non-slipping tread for the horses, and is much superior to brick, cobble or wood flooring. Have the drainage *surface* inside the stable, and an efficiently trapped drain a few yards away from it, to which the surface drain leads. There is no objection to surface drainage if the groom keeps the stable clean, which every groom ought to do if he has any interest in his work.

WHAT IS THE BEST BEDDING FOR HORSES?

If 99 per cent. of horsemen were asked this question, the reply would be, "Straw; give me good clean straw for a horse bedding."

What other reply could be expected from men that have any knowledge as to the condition of a horse's coat.

Straw is the finest material in the world for not only keeping the coat clean, but also for cleaning it. The "wisp" of straw is the life of a horse's coat and skin.

Good straw should be sweet and clean and have a pleasant odour. Either oat or wheat straw is preferable, the latter being the most durable. In some counties straw can almost be had for asking, at any rate in return for the manure, whereas in other parts of the country and in most towns it is a very scarce commodity, and small horse owners are unable to purchase it satisfactorily. Peat moss litter is the best substitute, being a soft material and absorbent, though it requires proper manipulation, otherwise it is a failure as a bedding.

It ought to be well broken up and the bed raked over several times daily, unless it is thrown to the side during the day time, as in many stables. It makes a powerful manure, though it renders the soil very dry, owing to the large amount of moisture that it can take up, and this is a disadvantage during a dry season or upon dry land.

Other materials used for bedding horses are: Sawdust, brake-fern, shavings, etc. The two first named are the best, and if a horse is addicted to eating its bedding, sawdust is a preventative. Both make cheap litter, and the last named is often employed in rural localities. As far as neatness of the stable goes, straw stands pre-eminent, in fact, sawdust, moss litter, etc., are difficult to keep in the stall, rendering the stable more or less untidy.

It is a very economical plan to take up the bedding during the day time, removing the soiled straw and exposing the rest to the air so as to dry and sweeten it. Moss litter is an economical bedding and extensively employed in large studs.

CLEANING A HORSE.

To keep a horse's coat to the best advantage necessitates a good deal of labour; much more than idle grooms are willing to expend. The best reference a groom can have is carried about with the animals under his charge, provided that he is allowed to exercise reasonable control over his stud. It is the strappers in the stable that do all the grooming, but the coachman or stud groom

is responsible for the faithful performance of his assistants' duties, and a great deal more can be done by encouragement than by abuse and other forms of severity towards those upon whom so much depends. It must be borne in mind that there is a vast amount of difference between cleaning a horse in winter, or during a wet season, than in a dry one, or during the summer,

The labour is twice as much in the former case. Different grooms have very different ways of treating their charges when they come in from work. For instance, some will wash the legs, others object to this on the ground that it favours cracked heels. So it does unless sufficient care is exercised as regards careful after drying and bandaging.

In many farm stables it is customary for the ploughmen, etc., to take their horses down to the pond to water them, allowing the animals to enter the water in order to drink.

This is a most objectionable practice, and one that causes a lot of trouble about the heels of these long-haired horses. If grease is present, it certainly adds fuel to the fire in the skin. The feet should always be washed directly a horse comes in either from work or from exercise, in both

summer and winter. There is no need to wet the heels if such be objected to.

If a horse is sweating freely and the coat lathering, the best plan is to sponge the body lightly so as to remove it, then vigorously shampoo with a wisp of straw, and finally dry off.

If the animal has a short coat this is an easy matter, and the horse may now be put in its stall or else walked about a little until cool. No rug must be put on until the animal has got thoroughly dry.

About a quart of cold water should be allowed as a drink, and this will assist to cool the system, but it is not advisable to feed a horse immediately it comes off work. If the coat is long, it gives much more trouble, and the results are never satisfactory.

Mud accumulates beneath the belly, under the arms and between the thighs, etc. The best plan is to remove the superfluous mud with a wet sponge and then dry.

Many horsekeepers allow the mud to dry on and then remove it with the curry comb and dandy brush. This is not a bad plan, and is a very general one, especially with cart horse owners. It is not so much practised in nag horse stables.

Washing a horse all over is not a commendable practice, but lightly sponging it over during the warm weather is beneficial to coat and skin. Vigorous shampooing with the straw wisp will bring the circulation of blood to the surface, thus assisting healthy functional activity in this region. It is a good plan to leave the saddle, collar, etc., on for an hour or so, in order to prevent saddle and collar galls.

The mane comb, dandy brush, chamois leather and curry comb constitute the stableman's grooming appliances, and all should be kept in their proper place.

IS CLIPPING BENEFICIAL?

The old maxim that "circumstances alter cases" is the best answer to this question concerning clipping, because sometimes it exerts a beneficial influence, whereas at others it does not. Moreover, it has its *advantages* and its *disadvantages*.

Once a horse has been clipped it is necessary to re-clip when the coat grows again, and it certainly grows very rapidly after a good clip. A heavy coat makes a horse sweat easily, and

repeated sweating leads to a loss of flesh. A coat of this nature dries very slowly, and renders its possessor much more liable to take cold, and likewise hampers grooming operations.

Both horse owners and grooms have varied ideas as to clipping. Some will clip all over at one performance, whereas others will clip the body only, others again the limbs only. There is a good deal of faddism about the matter, and prejudice is often hard to kill. A common practice is that of leaving a patch of hair corresponding to the saddle. Whether this does or does not prevent sore back is an open question.

Hair is to a certain extent protective, and its presence may hinder chill to the skin in this region; if so, it must be a safeguard against sore back. I believe that it does exert a beneficial influence in horses that are inclined to suffer from sore back, but it may, to a large extent, be supplanted by leaving the saddle on after the horse returns from work, say for an hour or so. If this is done the animal may be clipped in this region. It is a fad with some men to leave a tuft of hair at the fetlock—to leave the footlock on.

This does not look neat, and closely clipped pasterns materially add to smartness throughout.

A horse that has been clipped requires less corn than one with a heavy coat.

In the spring and autumn horses cast their hairy covering, so that it is useless to clip at these seasons. Machine clipping has largely supplanted the hand clipping machine, more especially since small and portable appliances have been invented, and are almost within the reach of all.

At one time half a guinea was thought a very moderate fee for clipping a pony, but many men will now do it for the modest sum of 2s. 6d. It is quite worth 7s. 6d. to clip a horse properly, and no one need begrudge the clippers—there must generally be two men—this fee, if the work has been properly done. It is an art that some men are skilled in, whereas others make a mess of it. Close clipping and a total absence of lines, together with sharpness of contour around the ears, under the jaw, sides of the face, and at the joints, etc., as well as the complete absence of any stray long hairs under the belly, between the thighs, etc., are the indications of a clean, honest workmanship. Some horses are very troublesome to clip, and require the use of the twitch, especially when working about the head, etc.

After a horse has been clipped it requires some

clothing, light in summer, but heavy and warm in winter. It is just when the coat is re-starting its growth that the animal begins to lose its smartness. Constant trimming up will help to keep it better. By this I mean trimming the margins of the ears, around the coronets, etc. It is customary to singe the long hair off, though some object to the use of the singeing apparatus. Clipping can be altogether avoided by regular grooming, keeping the coat down with a heavy woollen rug, and maintaining the stable, in the winter, at a nice warm temperature. This obviates the necessity for "shedding the coat," so that the animal has the same one, or practically the same coat, in both summer and winter.

CARE OF THE MANE AND THE TAIL.

Both the mane and tail are portions of the animal that require special attention.

To keep these parts in nice order requires a good hand at the work, in fact, it is not every groom that can trim a tail. Nothing short of practical experience will do it. Shears with serrated edges are sold for trimming the end of the dock, and these certainly facilitate the work

being properly done. The comb should be freely used on the tail, and all outgrowing hair pulled. Combing is particularly necessary if the hair of the tail is left as a "switch," which many prefer. For cobs, ponies and harness horses I like a short dock, and the hair short. In heavy horses and vanners, plaiting the hair of the dock apparently broadens the quarters.

A "hogged" mane is one that has been cut close, and it makes both the cob and pony look smarter, in my opinion, than a long flowing mane. If the mane is left long, then the hair of the tail should correspond. Most trotters have a mane clipped close up, but I don't like tall horses with the mane hogged. Some horses have a very thin mane, either "single" or "double." A double mane is one that falls to the right and left.

BANDAGES AND CLOTHING.

Those who value their horses should provide them with a set of bandages; in fact, two sets, and a suit or rug for day and night use. Linen bandages can be used for day wear, or for summer, and should be neatly adjusted from below the knee to the fetlock, fastening off just below

the knee. In the hind limbs they only require to come about three inches or so above the fetlocks, or they are more difficult to retain in position. It may be accepted as a general rule that the fore limbs of light horses sooner give way than the hind ones, though the converse may apply to the case of horses for heavy haulage. It is unusual to bandage the limbs of heavy horses, in fact, impossible to do so satisfactorily, owing to the long hair about the fetlocks.

To keep the coat down, heavy woollen clothing is necessary, and if a horse has just been clipped, during the cold weather, a couple of good warm rugs is not too much.

Light rugs should be used in summer, both for the day and night, only the latter ought to be a trifle heavier.

Some horses are given to tearing off their bandages and their clothing, and this stable vice is a perfect nuisance, and can only be overcome by the use of a muzzle at night.

Bandages must not be applied too tightly, but the pressure equable and firm. The tape marks ought not to be seen when the bandage is removed.

All clothing and bandages, in fact, all stable

appliances, should be kept scrupulously clean and in their proper place, so that when required for use there will be no difficulty in finding them.

WATERING HORSES.

Let the water be as pure as possible. Pond water is generally very stagnant, and not suitable for drinking purposes, yet a large proportion of farm horses have no other given to them. This is frequently because it is too much trouble. Some horse owners make it a rule to let a horse have water constantly in front of it, and horses that drink freely are generally good thrivers. To water a horse immediately before work is not a good practice, nor yet just after feeding it. It is customary to give horses water three times per day, and this is usually all that is required. If water is contaminated with nitrates, with lead, or other injurious products, it will, sooner or later, wreck the animal's constitution. Ditch water is most pernicious. When horses are sent to pasture in the summer, take particular care to see that they have a liberal supply of fresh water kept in the shade. There is no greater mistake than to suppose that any sort of water is good enough for live-stock. Sandy water is very detrimental.

MAN'S DUTY TOWARDS THE CARE OF ANIMALS.

It is the duty of every man who has the charge of horses, either for pleasure or for commercial purposes, to utilise all power at his command on behalf of their welfare. If owners of horses would only personally supervise members of their stud as to feeding, shoeing, and their general treatment in health and disease, such would prove more economical when compared to the charges left in the hands of servants, who very often either through ignorance or unwillingness to bring into play a little extra exertion, neglect the animals placed under their care. There are plenty of good grooms, and good horsekeepers, equally are there numerous indifferent and bad ones, and fortunate is he who can leave his animals in charge of a man who will study his master's interests as zealously as though the property belonged to himself. It may be said that deception is an art, and it is one the writer is sorry to say that exists in a high state of perfection in many stables, yet the owner fails to recognise, or declines to accept its existence, when such is pointed out to him.

CHAPTER II.

FOODS AND FEEDING.

THE feeding of horses varies in different localities, some owners preferring one food for the "base," others another. If a horse is supplied with an inadequate amount of nourishing forage, it soon begins to lose condition, and loss of condition means diminished working power. Probably one of the most foolish things a man can do is that of purchasing cheap fodder, all the time believing that he is doing so on economical grounds. No greater error can be made, as *inferior* forage is the dearest that can be bought. I do not argue that the mere fact of paying a good price is a guarantee of "quality," because this would be incorrect.

The quality should respond to the height of the price, but an unscrupulous vendor very often takes a different view, retailing the *worst* at the best price.

As a staple food for the horse, oats have no equal, and some farmers in the North of Scotland feed their horses almost entirely on oats, with whole straw or else hay. The allowance of oats per day ranges from 6-lbs. to 18 or 20-lbs.

They can be fed to horses either whole or crushed, and opinions differ as to which is the best state for feeding.

Crushed oats are digested with greater ease than the whole ones, and for horses with defective teeth it is a good plan to give them bruised oats.

Oats are of good quality when they weigh 42-lbs. to the bushel, which may be taken as the weight to buy at. Examine a few of the seeds in order to ascertain whether the husk is well filled, as common oats are nearly all husk.

Maize sometimes supplants oats, but it has not the merit of the latter, being too feeding and too stimulating for a staple food. It ought to be given bruised. It is a useful adjunct to other cereals.

Again, barley is sometimes substituted for oats, but it has no advantages, yet some disadvantages. Horses will work well enough on barley, but it makes their ejecta most offensive.

The quantity of grain as a daily allowance must be in accordance with the work the animal has to perform. Bulky food should never be given whilst at work, nor yet less than a couple of hours before work. It is a bad plan to work a horse on a full stomach, more especially fast work. The

comparatively small size of the stomach points to this fact. One may feed three or four times daily, most farm and other heavy horses being fed about 5 a.m., and then again when they come in from work for breakfast. A mixed forage constitutes an economical food. The bulk should be formed of oats and cut hay or straw, with the addition of 1 or 2-lbs. of old beans, maize (crushed), peas (split), the latter replacing half the beans. Bran is generally added to all cut stuff, though it has not much feeding value in it. Too much bran is a very bad food, as it favours the formation of intestinal concretions (stone in the bowels).

If hay is used, from 5 to 20-lbs. can be allowed daily. Good hay should be a year old, and contain such grasses as the rye, crested dog's tail, meadow fox tail, the meadow grass, sweet-scented vernal, etc., etc. The addition of clover enhances its value. Freedom from dust, mow-burn, etc., are essentials.

Good quality hay can generally be bought between £4 and £5 per ton, usually nearer the former price. English farmers usually give their horses about 10½-lbs. of oats, 3-lbs. of beans, 15-lbs. of hay, and a couple of lbs. of chaff per day. More oats should be given in winter than in summer.

During the summer a certain amount of *green food* is frequently allowed, and this generally consists of vetches, clover, cut grass, tares, etc. It is very useful as a laxative, and helps to cleanse the alimentary canal. Too much is apt to purge or bring on an attack of gripes.

It is a very good plan to turn horses out to pasturage on Sunday and bring them up again at night. A dose of physic, when the animal is first turned out, will do good and prevent colic.

The hind shoes should be removed if there are other horses in the same park, otherwise an accident—often a fatal one—may occur. It is better to be cautious.

A food that is now extensively employed by most of the large contractors, likewise in the Army, is *Molassine Meal*, and this is a food that can replace a portion of the other forage. Ponies do well on the addition of 3-lbs. of Molassine Meal per day. For van horses, about 6-lbs. per day, mixed with the other forage, helps to keep the digestive organs in good fettle. Horses improve in condition when fed on this Meal, whose action also expels worms, therefore this alone is beneficial.

The author always prescribes it use for animals

in backward condition, and the results are never negative. It has an antiseptic action, so that cases of colic diminish when the Meal is used.

The Molassine Co., 36 Mark Lane, London, will send price per ton. Farmers and contractors should all use it.

FEEDING SICK HORSES.

A word or two of advice upon the feeding of a sick horse will not be found out of place in a small work of this description. Many horse-keepers and owners have not the slightest idea how such should be fed. To place a lot of food in front of a horse that is really ill is simply suicidal towards re-establishing the appetite. Feed often and in small quantities. Never leave food before a sick horse. A little green food, or carrots, will often tempt a horse when it refuses its ordinary rations. Swedes, mangels, turnips, clover, and cut grass, vetches etc., are all useful for such purposes. Milk does good if a horse can be persuaded to drink it. Linseed gruel is helpful in cases of influenza. Eggs, milk, and brandy are often forcibly administered in such cases.

CHAPTER III.

PURGATIVE MEDICINE.

It is customary amongst horse owners to resort to the use of purgative medicine either for the purpose of warding off some disease or threatened ailment, or for cleaning out the alimentary canal for some other reason, such as a change of food. Before turning out to graze, it is always advisable to give a physic or purging ball, the best ones being obtainable from veterinary surgeons.

The principal drug used for such purposes is Barbadoes aloes, powdered and made into a ball or bolus of proper shape and consistency. These balls are obtainable in sizes weighing from 4 to 8 drachms, the smaller weight being used for ponies and the larger one for cart horses, but if a horse is properly prepared with a bran mash or two on the day preceding the administration of the ball, a 7 drachm ball is quite enough for most horses of the cart horse stamp. For hackneys, etc., a 6 drachm ball will do its work as a rule. Prepare by giving a bran mash.

It must be understood that horses differ in regards the production of purgation. Some are

easily purged, others with difficulty. Old horses are usually easier to purge than young ones.

While the medicine is doing its work, give very little food, so that its full effects may be obtained. It is not advisable to work the animal whilst the physic is active. Epsom salts is also a purgative and useful in some cases.

ADMINISTERING MEDICINE TO HORSES.

Medicine may be given to the horse either as a fluid, semi-fluid, powder, or in the solid form. A convenient form is that of the bolus or ball. It requires practice to give a horse a ball properly.

The head must be held by an assistant with the halter, taking care to have the noose over the nose loose, so as to permit the hand and arm to go well into the mouth for the free delivery of the ball, the latter being taken into the fingers of the right hand, the left hand being used to grip the tongue, which is withdrawn from the mouth, being grasped firmly with the left hand whilst the right one speedily pushes the ball on to the back of the tongue. It must be done very expeditiously

—the quicker the better, as failure several times only annoys the horse, and renders the bolus more troublesome to administer.

A very convenient form to give medicine to horses is that of mixing the powder with a little damp corn. Many liquids can also be given in this manner, unless the animal is too ill to take any food. Soluble powders can be given in the drinking water.

Horses differ as to their acceptance of drugs in this manner, some taking very pungent drugs mixed with their food, whereas others will refuse it altogether.

If fluid be forcibly administered it is necessary to elevate the head.

This can be done by slipping a noose through the mouth and around the upper jaw, the free end of the cord being thrown over a beam in order to forcibly raise the head, so that the liquid will easily run down the throat. If preferred, the twitch can be applied to the nose, and the head elevated in this manner. A stable fork and nose band are commonly used for similar purposes, but sharp pointed forks should never be used, being equally dangerous to both. For the amateur, a tin bottle or horn is the best to give

the medicine out of, though a bottle is commonly used. Unless care be exercised, the bottle may be bitten and mischief thus arise. I have known such accidents to happen with the inexperienced horse keeper, and the animal's death result.

From half to one pint of liquid is usually sufficient for a single draught, and the person administering the medicine should place himself on the left side, turning the horse in the stall, so that its quarters are against the manger.

The neck of the bottle is passed between its cheeks and grinders, and the fluid allowed to flow *slowly* down the gullet. If horse coughs, the head should be released for a minute or two.

The great secret is to give the medicine slowly. Some horses are very easy to drench, others difficult or impossible to do so with safety.

Striking with the fore feet is a dangerous vice, so that one never ought to place oneself directly in front of the animal. Disease has of course a subduing effect, though it does not by any means do away with a horse's resistance in this respect. Pouring fluid down the nostril in order to make a horse swallow is a most pernicious practice, and must be condemned.

COUNTER-IRRITANTS AND THE CAUTERY.

The application of counter-irritants to some portion of the body, or the limbs, is employed for relieving internal inflammation such as pleurisy, congestion of the lungs, etc., or else to disperse a swelling and strengthen the part: sometimes to create swelling, and hasten the formation of matter. The blistering agents chiefly used are mustard, cantharides (fly blister), red blistering ointment, hot water, etc. It is a common practice to blister splints, curb, wind-gall, sprung-tendons, etc.

Firing is a more active form, but requires professional skill for its proper application.

Mustard requires to be used with discrimination, otherwise the skin may be blemished.

Hot water is a good application for pain in the belly, and should be applied by means of woollen rugs, wrung out in the water, then fastened on with a waterproof sheet on the outside to retain the heat.

CHAPTER IV.

HEAVY HORSES.

THE three principal varieties of heavy horse in Great Britain are the Clydesdale, the Suffolk, and the Shire. They are all equally useful for heavy haulage, and for agricultural purposes in general.

The Eastern Counties has, of course, always been the home of the Suffolk, the original title for which was that of *Suffolk Punch*—a name derived from the rounded or punch-like appearance of the breed. The Suffolk is a most useful variety, and one that is particularly suitable for moderately heavy work at a fairly good pace. As an agricultural horse, for brewers' light work, for van work of the heavier class, and as an "all-rounder" for the contractor, the Suffolk has no equal in our own or any other country.

In colour the Suffolk is either light or dark chestnut, with or without white points.

All pedigree or well-bred Suffolk horses are particularly "clean" about the legs, and have generally very good feet. In neck, crest, shoulders, and quarters, the breed is, on the average, of the best conformation.

The back and loins are clothed with the highest

degree of muscular development, whilst the shoulders, arms, and fore-arms attain their maximum degree of development in the Suffolk.

Good Suffolks can be bought from breeders of repute for about 60 guineas, and this price will amply repay the purchaser, owing to the durability and constitutional stamina of the breed.

THE CLYDESDALE.

The Scottish farmers are very proud of their native breed of cart horse, and the Clydesdale Horse Society keenly watches over the welfare of this variety. The Clydesdale is not quite as massive in body as the Shire, but it is, nevertheless, in great demand, not only at home, but in the United States, Canada, Argentina, etc. The most favourite colours are either mottled brown or black, with or without white, but good Clydesdales exist in other colours, such as grey, etc. It is a variety of horse that has, as a rule, good limbs and strong, open feet, whilst the constitution is generally of the best. There is always a demand for Clydesdales, and very good prices can be obtained for first-class animals, especially for exportation. Clydesdales are frequently crossed

with Shires, and I think, at times, with advantage, especially for farm horses. The introduction of Scottish blood strengthens the constitution, but it destroys lineage, which latter does not matter where horses are required purely for work. The height ranges from $16\frac{1}{2}$ to $17\frac{1}{2}$ hands.

Many of the Scottish farm horses are strong, willing workers, but a proportion of such—probably 25 per cent.—are of poor conformation, and by no means sound.

THE SHIRE HORSE.

For the heaviest class of haulage the Shire bred horse has no equal, its only rival being the Clydesdale. At the time of writing, Shire horses are in as great demand—in fact, greater—than they ever have been. During the last twenty-five or thirty years this variety of horse has made great improvements in the matter of general soundness, as there are not many rejections for such at the shows now, whereas at one time the rejections on the ground of unsoundness were numerous. Colour is unimportant, good Shires being found in almost any colour, though seldom in dun.

The commonest colours are: bay (light and dark), brown, black, grey, white, and roan. The skin should be thin, the hair fine, the limbs big in the bone, the back and the loins broad, the chest deep, and the ribs well sprung, the flanks thick, and the body or middle piece massive in all proportions: broad pasterns, broad knees, clean, broad hocks, and sound feet, well open at the heels, are all important features of a good Shire. A nice temperament—free from vice—and a well-shaped head, together with a good constitution, and an absence of disease in connection with the limbs, helps to form quality throughout. Shires fetch all sorts of prices, say from 40 guineas up to several thousands of pounds. Quite recently a yearling sold for 900 guineas—a record sum.

THE HACKNEY.

This most useful variety of horse was originally bred in the county of Norfolk, having descended from the famous Darley Arabian, foaled in the year 1702, and imported by Mr. Darley from Aleppo. Hackneys are always in demand, and the Hackney Horse Society has done a wonderful amount of good for this breed. Both for harness



From Photo by G. H. Parsons.
HACKNEY STALLION.



and saddle purposes Hackneys are equally at home, and they have good staying power. Remarkable prices are frequently obtained for high-class specimens, and these are numerous, as there are so many Hackney horse and pony breeders in England, Scotland, and all parts of the world.

With reference to colour, this is unimportant, as good Hackneys exist in so many colours. Chestnut, bay, brown, black, and roan are the principal colours, however.

The average height is 16 hands, but 15.2 Hackneys are common. Hackney ponies are generally about 14.2 hands, but they vary in their height; in fact, the classification of the breed at the Hackney show, as to height, is very varied.

The skin should be thin, the legs clean, the back of medium length, the limbs neither too short nor too long, the facial expression keen and intelligent, whilst the action, fore and aft, should be equally good and graceful.

Neither vice nor bad habits should exist. The best age to buy at is from five to eight years, the latter for nervous horsemen.

CHAPTER V.

THE PONIES.

Welsh Ponies.**Exmoor Ponies.****Shetland Ponies.****Dartmoor Ponies.****Rum or Galloway Ponies.****New Forest Ponies.****Connemara Ponies.**

WELSH PONIES.

THIS is an ancient breed of pony, but from time to time has suffered through want of suitable protection and attention.

In the early part of the 18th Century there existed a very famous little racehorse called "Merlin," and when this horse became broken down for the turf he was sold to a gentleman, and turned loose to run with the droves on the Welsh hills.

The result of this experiment was an improvement in the breed, although this was not sustained, all the best being purchased.

The next step was the introduction of Norfolk Hackneys. The typical Welsh pony is from 10 to 12½ hands in height. The best work towards the welfare of this breed has been done by the Church Stretton Hill Pony Improvement Society.

The Welsh Pony and Cob Society, founded in 1902, bids fair to place the Welsh pony on a proper foundation, and this Society has made four divisions, as follows:—

Class A.—Pure Welsh Pony not exceeding 12 hands and 2 ins.

Class B.—Ponies from $12\frac{1}{2}$ to $13\frac{1}{2}$ hands, when a cob cross has been introduced direct from the Welsh pony.

Class C.—Ponies from $13\frac{1}{2}$ to $14\frac{1}{2}$ hands having more cob blood in them.

Class D.—Welsh Cobs from $14\frac{1}{2}$ to $15\frac{1}{2}$ hands, the largest of Welsh bred horses.

The following are the descriptions of the points, etc., of Welsh ponies, as furnished by the local Committees:—

North Wales Division.—Height not to exceed 12 hands 2 ins. Colour, bay or brown preferred, grey or black allowable, but dun, chestnut or broken colour objectionable.

Action.—Best described as that of the hunter; low, daisy-cutting action to be avoided. The pony should move quickly and actively, stepping out well from the shoulder, at the same time flexing the hocks and bringing the legs well under the body when going.

General Characteristics.—The pony should show good “pony” character and evidence of robust constitution, with the unmistakable appearance of hardiness peculiar to mountain ponies, at the same time have a lively appearance.

Head.—This should be small, well chiselled in its outline, and well set on; forehead broad. Nostrils large; eyes prominent, mild and intelligent. Ears neatly set, small. Neck strong, proportionate, with moderate crest. Shoulders should be well laid back, and oblique, but not too fine at the withers. Back and loins, strong.

Hind Quarters.—Long tail springing well from the top of the back, as in the Arabian. Hocks well let down, fine yet broad; curby, or low hocks faults. Fore legs well placed, strong fore-arm. Short cannons. Good open feet, sound and hard.

South Wales Division.—The South Wales Hill Pony seldom exceeds 13 hands. His attributes are sure-footedness and straight action. Has low withers, short fore-hand, a “low” set on tail, but sickled (over-bent) hocks, though fore-legs and feet are good. Constitution strong. Of late years has been crossed with the Cardiganshire Cob to some extent. Also half-bred two-year-old Shire colts have been allowed access to the hills

during the summer in some places, much to the detriment of the breed. As to colour, bays and browns prevail.

SHETLAND PONIES.

There is little doubt as to the "Sheltie" being a distinct breed several hundreds of years since. Brand visited the islands of Orkney, Shetland, etc., and a published account of his visit is as follows:—"The Shetland ponies are of less size than the Orkney horses, for some will be but 9, others 10 nives or hand breadths high, and they will be thought big horses there if 11, and although so small, yet they are full of vigour and life, and some not so high as others often prove to be the strongest . . . Summer or winter, they never come into a house, but run up the mountains in some places in flocks; and if any time in winter the storm be so great that they are straitened for food, they will come down from the hills when the ebb is on the sea, and eat the seaware . . . which winter storms and scarcity of fodder put them out of ease, and bringeth them so very low that they recover not their strength till St. John's Mass Day, the 24th of June, when they are at their best. They will live to a consider-

able age, such as 26, 28 or 30 years, and they will be good riding horses in 24, especially they will be the more vigorous and live longer if they be four years old before they be put to work. Those of a black colour are judged to be the most durable, and the pyed often prove not so good; they have been more numerous than they now are."

From the foregoing account we learn that our present Shetlander pony has not lost the qualities attributed to him by Brand. He is as hardy and strong as ever; as sure-footed and as small as he used to be. The average height for a Shetland is 10 hands, and the Shetland Stud Book Society does not register ponies above 10 hands 2 ins. Ponies 9 hands are not uncommon, but anything below this is exceptional, certainly not the rule.

Most of the prize winners are 9 and 10 hands or thereabouts, and in colour brown, black-brown, bay, more rarely chestnut. Many have white markings, and some are piebald.

The breed is as hardy as they "make 'em," and will do hard and fast work on poor food. In point of size, for endurance, weight carrying, and cleverness all round they have no superior, if an equal.

One of the best small ponies the writer ever drove was a dark brown Shetland, to name "Sammy." He could carry his tub with three people in it, at eight or nine miles an hour, and keep it up. In the autumn and winter the coats of these ponies get very long, unless the best of grooming, clipping, etc., is carried out. To work in this condition is considerably against them. It is quite exceptional to find a bad tempered Shetland, although they are not all suitable for children, some being rather too strong in the neck.

At the same time, it goes without fear of contradiction that a well-broken Shetland forms an ideal pony for a child, either for saddle or harness purposes. Shetlands are used in coal pits, working in low galleries where the pit is seamed. The long flowing mane and tail, the long forelock, the short back, short legs and broad short head, are characteristic features of the Shetland. The fore arms should be strong and broad, cannons short and clean, pasterns oblique, and a hoof at angle of about 45 degrees. A common fault is upright boxy feet. Action should be good—moderately high, fore and aft; quarters strong; back broad.

EXMOOR AND DARTMOOR PONIES. THE EXMOOR.

This is an ancient breed of pony, and in its natural state has degenerated through picking out the best animals of the droves, without exercising care in the selection of suitable sires. Sir Thomas Acland and Mr. Knight (deceased 1850) took a keen interest in the welfare of these ponies, and did much towards their improvement. Arab blood has frequently been introduced, sometimes with marked benefit.

The Exmoor should not exceed 13 hands, the average being 12 hands. A "mealy" nose is characteristic. In colour dark bay, or brown, with black points. Legs short, and back strong. To buy Exmoors, one of the best places to go to is the Brampton Fair, held in October.

DARTMOOR PONIES.

These ponies are usually brown, black or bay, and should not exceed 13 hands in height. The neck should be strong and of moderate length. When trained they make good boys' hunters, are good stayers, and like the Exmoor, very sure-footed.

RUM PONIES, OR THE GALLOWAY.

The pure Galloway was said to be nearly 14 hands, and of a bright bay or brown, with black points, and had a small head, clean legs, stout body, and was very shapely. These Galloways are reckoned to have had marvellous powers of endurance, and were sure-footed. In 1840 the late Marquis of Salisbury brought to light a breed of Black Galloways from the Island of Rum, then in a wild state on the island. Characteristic features are said to be found in the colour of their eyes (which are hazel), the long croup and big head. These ponies have good quarters, and are first-class stayers, though they may be but poorly fed.

NEW FOREST PONIES.

From records it is evident that this variety of pony was in existence at least 1,000 years since. The present qualities of the "Forester" are chiefly due to a horse called "Marske," the sire of the immortal "Eclipse," foaled 1764, so that these ponies have a great deal of thoroughbred blood in them. This entire was barely 14.2.

Subsequent to this improvement, the best ponies were sold and no attempt was made to

keep up the standard until the Prince Consort introduced a grey Arab entire into the district, and this gave new life to a fast degenerating race of ponies.

In the present day Lord Arthur Cecil turns out a number of black stallions imported from the Island of Rum (Scotland) first about 1840 by the late Marquis of Salisbury. The cross has evidently been of marked benefit to the New Forester.

General Appearance: Height, 12 to 13½ hands. With better keep these ponies will increase three or four inches in height. The so-called flea-bitten greys are very numerous, but these ponies are found in a variety of colours. They are considered to be good tempered when broken, but troublesome to overcome. Have fair shaped shouldèrs, but croup is generally of bad shape.

CONNEMARA PONIES.

Connemara, in the county of Galway, apparently had, like Orkney and Shetland, a variety of horses peculiar to its locality. The origin and excellence of these ponies seems to be due to the introduction of Eastern sires—Arab or Barb; but within the last twenty or thirty years the breed

has been degenerating, though more recently attempts have been made to resuscitate it.

These ponies are from 12 to 14 hands in height, have clean wiry limbs, and long lean (Eastern) heads. In colour, yellow dun, bay, or grey. Croup to be as high as the withers. Neck strong and of medium length; shoulders straight; withers medium; long body; deep (63 to 70 ins.) legs short and strong. Cannons $6\frac{1}{2}$ to 7 inches in length. Loins must be strong and quarters well sloped. The Connemara Pony Committee gives the distance between the eyes $7\frac{1}{2}$ to 8 inches, and the length of the leg from elbow to ground from 31 to 33 inches. These ponies are specially suitable to train for polo work.

CHAPTER VI.

JUDGING AGE BY INSPECTION OF THE TEETH.

THE only reliable method of ascertaining a horse's age is by carefully examining the wearing surface of the lower *incisor* or nipping teeth. First of all, it is necessary to explain that horses have two sets of teeth, one called the *temporary*, milk, or

sucking teeth, and the other the *permanent* teeth.

The whole of the teeth are not *temporary*, there being 24 molar or grinding teeth, of which 12 only—3 in each jaw—are temporary. These are, owing to their position in the jaws, known as the 1st, 2nd, and 3rd temporary molars, the *permanent* ones being the 4th, 5th, and 6th molars. *Sucking* or temporary *incisor* teeth are smaller and whiter than the permanent ones, and they have not the groove on the face of the tooth so well marked. It is quite an easy matter to distinguish the temporary teeth when seen side by side with the permanent ones. For convenience of study, it is usual to speak of an incisor tooth as consisting of three portions, viz., the crown, the neck, and the fang or root. The crown is covered with enamel, and projects above the gum, and its nipping surface is known as the "table," the shape of which alters with the wear of the tooth. As the crown is covered by a layer of enamel, the latter forms a ring or boundary around the tooth, hence this ring is spoken of as the *outer enamel ring*, in contradistinction to the smaller enamel ring surrounding the "central" mark, or "bean," as it is vulgarly termed. This is the *inner enamel ring*, and it alters in shape also as the

tooth wears away, finally becoming obliterated. It is the alteration in the shape of the tooth, likewise that of the inner enamel ring, that enables one to judge the age from inspection of the teeth, after the animal has arrived at five years, up to the eighth year, but after this age it is usual to speak of the animal as being "aged"—anything from 8 to 15 years. After the latter simply as "old"—an old horse.

Old horses have long incisor teeth, due to receding of the gum. They also gradually deviate from the "vertical" teeth of a younger horse, to the horizontal inclination.

When dentition has been completed—that is, between the 4th and 5th year—a horse has 24 molars or grinders, 12 incisors or nippers, and 4 tushes, though the last-named are usually absent in mares. The tushes are not of much service for marking the age, but generally make their appearance about the fourth year, becoming sharper with increasing years.

In some instances, the upper incisors project beyond the lower row, if so, the horse is said to be parrot-mouthed. There is a reversed condition of this abnormality.

The *temporary* and the *permanent* teeth come up

in pairs, beginning with the centre of the mouth, they are arranged as follows:

Central pair.

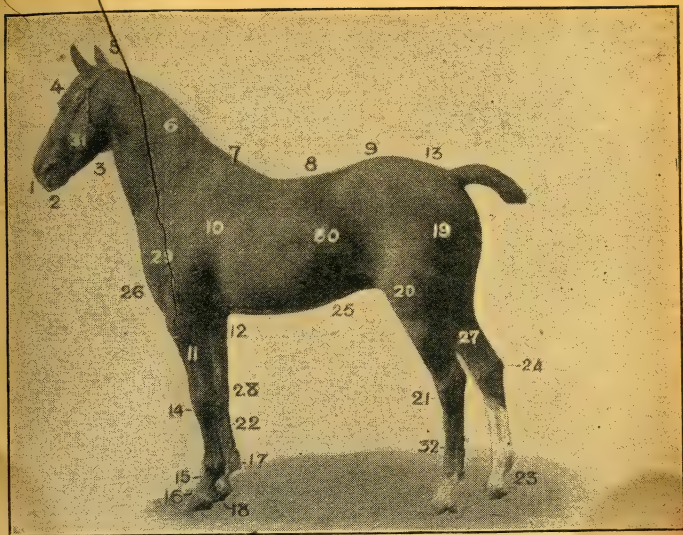
Middle pair.

Corner pair.

The *central* pair usually make their appearance soon after 2 years, say 2 years and 3 months, or 2 years "off," as it is called.

At 3 years "off" the *middle* pair appear, and at 4 years "off" the *corners* are in the mouth. It is usual to allow about 3 months, so that the permanent teeth ought to respond to $2\frac{1}{2}$ years, $3\frac{1}{2}$ years, and $4\frac{1}{2}$ years. Their "tables" or cutting surfaces are not as a rule in wear at the ages given, but by the time that the year is completed or the birthday arrives, they are either touching the upper teeth, or else in wear.

At 5 years a horse is said to have a full mouth. At 6 years the front edges of the last pair of teeth cut, *i.e.*, the corner ones, are worn upon their *front* edges, but it is not until the 7th year that the wear extends all over the table of the tooth. The mark is now very shallow, whereas at 6 years it extends almost across the tooth. Some horses have their corner teeth in the 6 year old state throughout life. Such are spoken of as shell teeth.



POINTS OF THE HORSE.

- | | | |
|--------------------|-----------------------|--------------------------|
| 1. Nostrils. | 12. Elbow | 23. Coronet |
| 2. Lips | 13. Croup | 24. Point of Hock |
| 3. Maxillary Space | 14. Knee | 25. Belly |
| 4. Forehead | 15. Pastern | 26. Brisket |
| 5. Poll | 16. Coronet | 27. Gaskin |
| 6. Crest | 17. Fetlock | 28. Chest Nut |
| 7. Withers | 18. Lateral Cartilage | 29. Point of
Shoulder |
| 8. Back | 19. Hip Joint | 30. Ribs |
| 9. Loins | 20. Stifle | 31. Face |
| 10. Shoulder | 21. Front of Hock | 32. Canon |
| 11. Forearm | 22. Canon | |

CHAPTER VII.

BUYING A HORSE.

THE most economical method of purchasing a horse is to have the animal examined as to soundness by a M.R.C.V.S., the usual fee for which is from a half-guinea to a guinea. I never can understand why intending purchasers will be so stupid as to buy horses without the slightest knowledge of such matters. In many cases it is far better to have no knowledge whatsoever about horses, than a little, as this "little" may, to the purchaser's dismay, subsequently grow into the "big."

The great horse exchanges of the world are the various horse repositories, the principal one in London being that of Messrs. Tattersall, Knightsbridge, whose sales are twice weekly during the season, viz., Monday and Thursday, when all classes of light horses are sold under the hammer.

Aldridge's Auction Mart is in St. Martin's Lane, and here all classes of horses are sold. Other repositories are: the Barbican in Golden Lane, the Edgware Road Horse Repository, and the Elephant and Castle Horse Repository.

A good deal of care must be exercised when

purchasing a horse at public auction, because so many are sent to such through some fault or another. A horse can be returned to the auction if it is not in accordance with the catalogue description, provided that the regulations of the auction are complied with, so that the rules should be carefully followed.

Take particular note of the wording of the notice appertaining to any horse that is apparently suitable, and note that there is a difference between a "warranty" and a "representation."

To make the matter clearer concerning the two latter, we will take the following as representative of what may easily mislead:

Chestnut gelding, warranted sound and quiet in harness, age 5 years. Here the use of the word "warranty" only applies to the soundness and utility of the animal in harness. The age, it will be noticed, follows the warranty, and not being embraced by it, is merely the seller's "representation." Whether such has or has not been given to the best of his belief remains to be proved. The purchaser should satisfy himself as to the truth or otherwise of such statements before buying.

Two very large horse repositories are those at

Crewe and Wrexham, and from this source some of the best horses change hands.

All the principal cities and towns have a horse auction, and most market towns horse fairs.

A very good method of purchasing, especially if a good class of horse is desired, is to visit some of the spring sales, as most breeders of both light and heavy horses have annual or bi-annual sales of surplus stock.

Then there is the horse dealer and the private vendor. Horse dealers of repute exist in various parts of the country, and can generally be relied upon if the client only states exactly what he requires.

To purchase from a private source requires the exercise of care, as many faulty horses are thus disposed of, usually under cover of the groom, thus relieving the master of any unpleasantness should such subsequently arise.

In concluding this chapter, the author strongly advises all intending buyers to have the animal thoroughly tried by an expert as to its suitability for a given purpose, and professional examination by a M.R.C.V.S.

In this manner the buyer may be saved much annoyance and many pounds.

CHAPTER VIII.

**DISEASES OF THE RESPIRATORY
APPARATUS.**

UNFORTUNATELY for the horse the diseases of the respiratory apparatus are frequent, in fact more so than any other domesticated animals, the reason of this is in all probability twofold, namely, the conditions under which the animal has to perform its work, and its environment. In a small book of this description one can only take the passing notice of these diseases, the chief of which are as follows:—

ACUTE CONGESTION OF THE LUNGS.

This is not an uncommon complaint, especially in horses out of condition and compelled to undergo severe and prolonged exertion, hence it occurs frequently in hunters at the beginning of the season, when such animals have not been conditioned. Horses that are shut up in stables immediately after coming in from work especially if their bodies are wet, sometimes become affected with this complaint, arising through a form of carbon dioxide poisoning. In this case they are compelled to inhale and re-inhale the products

of their own breath, hence the necessity for freely ventilating the stable both during the night and day. Acute congestion of the lungs develops suddenly, and a horse may be dead within a few hours of its inset, hence the expediency of having professional aid immediately. It is denoted by embarrassed breathing and oppressed pulse, probably 100 per minute, dilated nostrils, anxious facial expression, sweating, etc. As a first aid the owner should, in the case of a hunter, dismount, unfasten the garth, turn the horse's head to the wind, vigorously shampoo the animal, and get it stabled as speedily as possible, whilst the administration of some stimulant, such as a teacup full of whisky, may be given until the veterinary surgeon arrives. Congestion of the lungs arises from other causes than these, and occurs as part and parcel of other maladies, such as cape horse sickness, anthrax, and sometimes as a transferred inflammation from other organs. It constitutes the beginning or first stage of pneumonia, which frequently originates in bronchitis.

PNEUMONIA.

There are two forms of pneumonia affecting the horse, but to the amateur a knowledge of their

differences is important. Pleurisy is commonly associated with inflammation of the lungs, in fact, it is one of the most dreaded complications of influenza, and more horses die from this malady, whilst suffering from influenza, than any other complication. One or both lungs may be affected, and the severity of the symptoms is usually proportionate to the area of the diseased activity. The commonest case of pneumonia is generally regarded as being due to exposure to cold, but in all probability pneumonia is due to specific causes, such as the entrance of micro-organisms into the respiratory tract. When a horse is affected with this complaint, internal temperature will generally be found about 104 F., but sometimes two or three degrees higher; in fact, if pleurisy is present about 105 F. is a common temperature. The breathing is quickened, and there is generally a furrow running along the floor of the chest, whilst grunting and sighing are frequently observed in pleurisy. When the latter malady is associated with inflammation of the lungs, there is a short and suppressed cough; the act of coughing evidently being painful. Horses generally stand when labouring under lung complaints, and if in a loose box, they

are inclined to hang about the door in order to take all possible advantage of the fresh air. The pulse is oppressed, but varies in its volume in accordance with the condition of the animal, and whether the disease is primary or secondary to some other complaint, for instance, when associated with influenza, the pulse is generally very feeble, though when pleurisy is present it has a characteristic hardness, excepting towards the final stages of the latter malady which implies effusion or dropsy of the chest. Under these circumstances a different class of symptom supervenes, and in the majority of cases a fatal termination will result; if pneumonia is suspected professional aid should be obtained at once. In the meantime it is advisable to place the horse in a warm and dry stable, preferably in a loose box, so that plenty of fresh air, free from draughts and sunlight, can be admitted. Clothe the body; bandage the limbs (if a light horse), and rub the sides of the chest wall freely with a wisp of straw, so as to increase the circulation in the skin over the region of the chest; the rest of the treatment will, of course, be left in the hands of a qualified veterinary surgeon.

BROKEN WIND.

This term is familiar to most horsemen, but probably more familiar to them than a knowledge concerning the nature of the complaint. The term is used as expressive of the respiratory act being broken or doubled, yet this only expresses what is actually seen, or ought to be seen, unless the intending purchaser falls a victim to the nefarious practices of the unscrupulous and low-class horse coper. A broken-winded horse has no commercial value, but it is of utilitarian value, and may continue to perform its work satisfactorily for years, provided it is carefully fed and judiciously employed. All broken-winded horses have a characteristic cough, and the expiratory act is double or broken; in the first portion of their act the air is expelled from the lungs in a normal manner, but in the latter part of it the air is gradually squeezed out of the lungs. All classes of horses are liable to be affected in this manner, in fact, it is a very common complaint. The cough is very significant, and once heard is easily recognised a second time. It is a peculiar hollow sound, and readily induced by slightly manipulating the region of the larynx, although unprincipled vendors sometimes administer to horses

such substances as shot and grease for the purpose of keeping the cough in abeyance at the time of sale. The chief changes in this disease are in connection with the lungs and stomach, but such are not constant. Horses soon become broken-winded when they are fed upon dry and dusty hay, then watered and driven immediately afterwards, hence the reason why it is not a good plan to give horses bulky food while they are at work. The best food for a broken-winded horse is crushed oats, bran, and linseed, made into a mash, and given an hour or two before work.

ROARING.

This abnormal sound is one that is exceedingly common with horses, and significant of disease either of a temporary or a permanent nature. The term roaring is applied to a harsh sound produced under exertion, but the degree of exhaustion required to produce such sound, likewise the intensity of the sound, depends upon the causes operative in the production. For instance, some horses will emit this sound even while at rest, whereas in other cases it requires severe and prolonged exertion in order to bring the defect to light. Sometimes it is associated

with acute diseases, such as strangles, laryngitis, lead poisoning, etc., and may be only temporary, whereas in other cases—which probably represents 90 per cent.—it is due to disease of some of the muscles of the larynx and implication of the recurrent nerve, being incurable. Intermittent forms of roaring occur, and are due to a variety of causes. A horse may be both a roarer and broken-winded, but of the two conditions, so far as value is concerned, there is little to choose. An allied abnormal respiratory sound is that known as whistling, and such a horse is spoken of as a “whistler.” Both the foregoing conditions necessarily constitute unsoundness, and if a horse grunts when an attempt is made to strike it, the probabilities are that it is touched in its wind, though grunting must not be taken as positive evidence of this, because some horses will grunt and yet are perfectly sound in their wind. Veterinary surgeons always look upon grunting with suspicion, and in order to confirm or satisfy themselves otherwise as to the state of the horse's wind, employ special tests.

CATARRH.

This is synonymous with a cold, and horses are often affected in this manner. Under ordinary

circumstances it is comparatively a mild complaint, and one which, under judicious management usually leads to complete restoration of health in a few days. Catarrh symptoms, either as representing an acute or chronic malady, are present in many diseases, therefore a considerable amount of circumspection is necessary in order to differentiate one malady from another. Simple catarrh is denoted by general dullness, shivering, perhaps a cough, and a discharge from the nose, all of which also occur in the incipient stage of influenza; but in the former complaint there is an absence of the marked prostration so significant of influenza. Sometimes a number of horses in a stud show catarrhal symptoms concurrently, which naturally leads the proprietor to conclude that the complaint is of an infectious nature. As a precautionary measure, whenever a horse shows signs of having a cold, it is advisable to keep it apart from other horses, until thoroughly satisfied that the complaint is one of a non-communicable nature. Very little treatment is required in catarrh, beyond that of a few days' rest, keeping the horse in a comfortable stable, clothing the body, and giving warm food.

SORE-THROAT.

Difficulty of swallowing is often accompanied by catarrhal signs, hence soreness of the throat and a cough are frequently present in the complaint previously alluded to. Most cases of influenza, likewise strangles, are accompanied by sore-throat. The cough is hard at first, but when the discharge begins to come from the nose it assumes a moist character, so that it is always advisable to encourage the nasal discharge by steaming the nose. Rub the throat with some stimulating embrocation, such as white oil or mustard paste, though it is not necessary as a rule to blister it. Keep horse warm, give soft food, more especially linseed oil.

STRANGLES.

This is a specific disease particularly prone to attack young horses, probably 80 per cent. of which pass through the disease, and when they have had one attack it confers a degree of immunity, though this is not absolute. Many old horses become affected, though it is possible that such may not have had the disease in their youth. Strangles is communicable from one colt to another, and when it makes its appearance in a

drove it usually passes through the whole of them. When it runs its ordinary course it is not a serious complaint, and the writer's experience is, a very little treatment is required. By the term "ordinary course" is implied the appearance of the abscess beneath the jaw coming to maturity in the course of a week or two, and, after being evacuated, ending in restoration to health. Some colts are seriously ill, whereas others practically remain fairly vigorous. Necessarily when a horse is what horsemen term breeding strangles, it suffers from some indisposition, and as the swelling in the throat advances it not uncommonly interferes with the breathing, through pressure upon the larynx and upper part of the throat; in fact in some cases veterinary surgeons have to open the wind-pipe to diminish the urgency of the symptoms. In the irregular forms of strangles the abscess (or abscesses) makes its appearance in another situation, either internally or externally. When in the region of the heart, brain, spinal chord, cavity of the belly, etc., it usually produces death, but if externally, such as at the point of the shoulder, along the course of the wind-pipe, etc., recovery is delayed, but follows in due course. The general nourishment comprises that

of keeping the animals in a comfortable house, and clothing the body, if such be applicable. Either hot fomentations or a blister may be applied to the swelling, but it is advisable to send for a veterinary surgeon.

INFLUENZA.

Influenza is one of the commonest complaints affecting the horse, and has a world-wide distribution. It attacks horses of all ages and all conditions, and exhibits close affinities to the same disease in man, and also distemper of the dog, in which prostration as a symptom stands prominently out. It is a disease that runs a variable course, and one of its worst features is the undesirable complications which so frequently ensue. When a horse has passed through a well-marked attack of influenza it seems to confer a degree of freedom from future ones. The infectious nature of influenza is well known, and when it appears in a stud of horses, most of the animals become affected. In all probability the virus of this disease is both fixed and volatile, hence the multifarious channels through which the malady appears to be propagated. The poison of influenza may retain its power of infection for several months, and this is one reason

why a stable where a previously affected horse has been often serves as a medium for transmitting the diseases to other horses. All stable appliances, such as mangers, pails, and the clothing of men and animals, likewise the hands of the attendants, forage, etc., are capable of acting as media of transference. Young horses, when brought from the country into town stables, commonly have an attack of this disease, and the proprietor concludes that the new arrival has brought the disease on to his premises, whereas the reverse is often the case. Various forms of influenza are commonly spoken of, but such are merely complications. Spring and autumn are the times of the year when the disease is most prevalent, but there is no exemption in this respect. The ordinary signs of influenza are:—Fever, preceded by shivering, the internal temperature usually being about 105, but sometimes a degree or so higher than this. Thirst is now marked, and the animal is extremely dull, with little or no inclination for food. The membranes lining the eyelids are heightened in colour, and there may be considerable water discharge from the eyes and swelling about the same; in fact, in a modified form of influenza known under the title

of "pink eye" the eyelids become closed. This form of the disease is generally attended with very severe constitutional disturbance, much more so than an ordinary attack of influenza. The throat is sore, and the animal has a most troublesome cough, which is of a very persistent character. At the outset of the disease the pulse is increased in force and frequency, but it soon loses its volume and tone until it becomes extremely feeble, and in some cases irritable. There is a discharge from the nose, at first watery in character, but this subsequently becomes thick and yellowish. The disease makes rapid progress upon the constitution, and soon reduces the animal to one of extreme poorness. In the bilious form the liver is specially implicated, and in the rheumatic form the joints, and it may be the valvular structures of the heart. Bronchitis and pneumonia are not uncommon in influenza, and account for a considerable percentage of deaths. From one to three weeks may be taken as the average duration of the disease, and about ten per cent. would cover the losses.

Management.—The general management comprises keeping the affected animal apart from the rest of the stud, and placing it under the best

conditions possible. The stable must be kept scrupulously clean, artificially warmed if necessary, the body clothed, the limbs bandaged, and the food given often but in very small quantities; feed on linseed gruel, scalded bran and oats, if the horse can be persuaded to take any food. Small doses of brandy or whisky, along with a dozen eggs two or three times a day, will be found of material service in strengthening the constitution. A bottle of claret given night and morning is an excellent recipe; the same may be said of a quart of strong coffee, but a considerable amount of care must be exercised when drenching a horse if it has a sore throat, otherwise more harm than good will result. The discharge from the nose should be encouraged by frequent steaming, using boiling water poured over such substances as bran, hay, etc., and compelling the animal to inhale the steam. The rest of the treatment should be left in the hands of the veterinary surgeon, the early advice of which should be sought.

GLANDERS.

This is a specific disease, due to invasion of the economy by the *Bacillus Mallei*. It is essentially a disease affecting horses, asses, and mules, and

probably other members of the equidæ, but its transference to animals of other species excepting man, the guinea pig, and dog but seldom occurs. The accidental inoculation of man from a glandered horse is not uncommon, and there is no doubt that many physicians fail to recognise this malady, and horse-keepers' deaths are occasionally ascribed as being due to blood-poisoning or influenza, whereas in reality such may have been due to glanders. As in the horse, it assumes both acute and chronic forms in man, and as a rule it is speedily fatal in the human subject, whereas the horse will sometimes continue to work for years when affected with the chronic form. It is a very common disease in large towns, especially in the stables of cab proprietors and contractors, and there is no doubt that motors will do more towards stamping glanders out than all forms of legislation. When this disease affects the absorbent vessels it is commonly spoken of as farcy, but such distinction is fast becoming obsolete, because glanders and farcy are identically the same diseases, and the lesions of both are often concurrent. Many horses have glanders without showing clinical evidence, and there are thousands of animals working in large cities, such as

London, with this disease upon them. The clinical signs of glanders are ulceration of the nasal cavity, a hard and knotty swelling beneath the jaw, general unthriftiness, and usually a cough, with or without abscesses along the course of the absorbent vessels, but any or all of the foregoing may be and commonly are absent, therefore clinical evidence is nil. The primary lesions of this malady begin in the lungs in the form of minute tubercles, and from here the disease extends to other parts of the respiratory tract, but the digestive system is never involved, although it is generally considered that this constitutes one of the chief portals of infection, but there is no doubt that the respiratory tract is commonly a primary seat of infection. Veterinary surgeons now employ the mallein test for the recognition of glanders when there is no clinical evidence, and sometimes even when there is. The subcutaneous injection of mallein into a glandered horse causes a flat swelling to appear at the seat of injection, with or without a rise of internal temperature. Being a notifiable disease, a knowledge of its existence in any horse demands that the proprietor shall report its supposed existence to the nearest Local Authority.

CHAPTER IX.

**SOME DISEASES OF THE DIGESTIVE
APPARATUS.**

INTRODUCTION.

THE digestive apparatus of the horse comprises the mouth, the pharynx, the gullet, the stomach, the large and small intestines, and the accessory glands, namely, the liver and pancreas. The liver is large, but there is no gall-bladder; the stomach is small, but the large intestine has great capacity.

COLIC.

This is one of the commonest complaints affecting the horse, being more popularly known under the title of gripes, and various other names. It is denoted by sudden severe pain in the belly, which is of variable duration, sometimes lasting only about half-an-hour and sometimes several days, and the urgency of the symptoms at once indicates to the owner that the animal is suffering great pain, and that the sooner this is relieved, the better. Horses of all ages are equally liable to be affected with it, but old animals are particularly susceptible because their grinding teeth very often become defective through wear, consequently they

are unable to masticate their food properly. The causes of colic are numerous, but the following are the principal ones:—giving too much cold water when over-heated, over-driving, the presence of worms in the intestines, working whilst under the influence of physic, fermenting food, sudden change of diet, say from dry forage to grass, excess of green food, concretions in the stomach or intestines, etc. Sometimes pains in the belly arise from inflammation, but such cases do not strictly belong to those designated colic, which, in its ordinary form, is a functional disturbance. The pain varies in its intensity, and comes in the form of spasms, between which are intervals of ease, but it is a very difficult matter for a non-professional to tell when a horse has colic, or whether it has inflammation of the bowels; but the latter malady is always fatal. The animal is constantly lying and rising, rolling on its back, sweating, and if it is a sharp attack of colic it is up and down every two or three minutes, and the body is soon bathed in sweat. In a considerable percentage of cases, probably fifteen or twenty, the belly is distended with gas; if so, it is spoken of as “flatulent colic,” which necessarily renders the case one of extreme

urgency, because a horse will sometimes die within an hour unless relief be afforded. It is always advisable under these circumstances to send for the veterinary surgeon at once, the sooner the better. Beware. The animal should be placed in a loose box, if possible, and given a deep bed of sawdust or straw. It is customary to keep horses walking about when they have colic, but the advantages of this are more than doubtful. When the belly is distended with gas a smart bit of exercise does good, more especially if alternated with vigorous rubbing of the belly and flanks with a wisp of straw. A pint of linseed oil and a couple of ounces of turpentine forms a useful draught for the relief of all ordinary forms of colic, but of course the treatment necessarily varies in accordance with the cause. Sometimes stimulants are required, in other cases sedatives, whilst in a large proportion of instances a full dose of purgative medicine is required, therefore it may be safely accepted as sound advice for the owner to seek professional aid.

INFLAMMATION OF THE BOWELS.

This diseased condition chiefly arises in the horse through some obstruction in the intestines, either

large or small, and such is generally due to a portion of the bowel becoming twisted, displaced, and then strangulated, hence the reason why a rupture sometimes leads to the death of the animal. When an obstruction is the cause, it is generally a concretion about the size of a cricket ball which gets fixed up in the lower end of the large bowel. Various irritant poisons, such as arsenic, yew leaves, etc., are occasional causes of inflammation of the bowels, and the same remark applies to the large round worm infesting the horse, and which inhabits the first two or three feet of the small intestine, in which situation there is sometimes caused complete obstruction.

Anthrax is often accompanied by acute inflammation of the bowels, and such cases quickly prove fatal.

CONCRETIONS.

Not uncommonly after death, one or more variously sized stones or concretions are found in the stomach or intestines, most frequently the latter. Some of these concretions are larger than a cannon ball, and have either a polished or a roughened surface; in some cases they are perfectly round, in others angular, their surfaces

being in apposition. As previously stated they are not an uncommon cause of colic, likewise of inflammation of the bowels. The growth of the concretions is by accretion, i.e., the disposition of layer upon layer around a central nucleus.

RUPTURE OF THE STOMACH.

This accident occasionally occurs, and of course always proves fatal. Thinning and disease of the wall of this organ favours its appearance, but many veterinary surgeons believe that the horse's inability to vomit under ordinary circumstances renders this animal specially prone to the development of this lesion. On the other hand, when a horse attempts to vomit or actually accomplishes this act, the vomiting is looked upon by some authorities as diagnostic of a ruptured stomach, though this view is incorrect, as many horses do actually vomit and yet are perfectly well afterwards, which would be an impossibility if this injury had occurred.

JAUNDICE OR BILIOUSNESS.

Derangements of the liver are not at all uncommon, and such may be either functional or organic. One of the commonest affections of the

liver is congestion, which leads to the entrance of the bile pigments passing into the circulation, and in this manner causing discolouration of the skin, white portions of the eyes, mucous membranes lining the eyelids, mouth, etc. This form of congestion is often seen in influenza, being known as bilious fever. In addition to the discolouration indicated, the pulse is slow and the animal extremely dull. Both bowels and liver must be acted upon, therefore a drachm of aloes and twenty grains of calomel, made into a ball, may be given night and morning for two or three days, unless laxative medicine is contra-indicated. Exercise is advisable, so as to increase the activity of the liver.

WORMS IN THE INTESTINES.

Horses are a good deal troubled with worms, both of the round and flat variety, though more especially the former, there being a large round worm which inhabits the beginning of the small bowel, and such are sometimes so numerous that they occasionally block this portion up and lead to a fatal inflammation, either through the irritation they cause, through the obstruction, or through some other lesion, for which they are

indirectly responsible. Both the large and small intestines, more rarely the stomach, are the habitants of the various species of worms, and the injury they cause is usually proportionate to their numbers. There is a short reddish coloured worm known as the four-spined strongyle, which passes part of its existence in the wall of the bowel and another portion free within it. In both situations it is an extremely detrimental parasite, but particularly so when located in the position first-named. It is a most troublesome worm amongst colts, in particular, and produces a gradual loss of flesh accompanied by diarrhoea. When infested with worms it is customary to give horses their medicine in the form of powders night and morning in combination with their food, but such are not as efficacious as an occasional draught given upon an empty stomach. Linseed oil and spirits of turpentine is an excellent remedy, two to four ounces of the latter mixed with a pint of linseed oil, and given once a fortnight, usually answers satisfactorily.

Molassine meal, say three or four pounds twice a day, is a useful food for clearing out worms. As most anti-worm remedies are of a very poisonous nature, it is better to consult a

veterinary surgeon, and allow him to prescribe in accordance with his superior judgment. The signs indicative of worms are by no means constant, the most positive being that afforded by the presence of the parasite.

CHAPTER X.

VARIOUS DISEASES AFFECTING THE HORSE.

DIABETES.

THERE is a simple form of diabetes affecting the horse, known as Diabetes Insipidus, which is characterised by an excessive discharge of urine of low specific gravity, and in the majority of instances arising through feeding the animal upon damaged forage, such as over-heated oats, musty oats, and burnt hay. Sometimes it assumes enzootic characters, i.e., a number of horses are affected in the same stud at or about the same time. The removal of the cause and treatment by iodine, along with a dose of physic, is usually followed by a return to the normal condition.

AZOTURIA.

Although the term means nitrogenous urine, there does not appear sufficient reason for retaining its use, because the nitrogenous constituents are not, according to analyses, much above the normal. It is now known as Hæmoglobinæmia, which implies that there is an anæmic condition of the blood of a temporary nature. Azoturia—we use the term for simplification—usually comes on suddenly, and generally after the horse has been stabled for a few days, previous to which it has been in active work, and fed in accordance with the amount of work to be done, without diminishing it during its short period of idleness. Up to the present time it has been thought that this excess of proteid matter led to auto-intoxication, denoted in this disease by muscular spasms, principally those of the haunches, which become in a chronic state of contraction, feeling like wood. In slight cases the horse remains standing, and then there is more hope of recovery, but when the disease is severe the animal soon comes to the ground, and the chances of recovery are extremely small. It is seldom that this disease comes on whilst the animal is in the stable, but usually shortly after it has been put to work. The

best positive evidence, though not negative, is afforded by the dark coloured urine, which assumes a brown colour. If this malady is suspected, the sooner professional aid is obtained the better.

LYMPHANGITIS.

This complaint is popularly known under the titles of "weed," "a shoot of coals," and last, but not least, as "Monday morning disease," all of which are fairly significant. The last term is employed because horsekeepers find it present on Monday morning, owing to the rest following labour. It is a very common complaint, and has both local and constitutional symptoms, but the former would appear to be salutary. Cart horses are the most frequent sufferers, and one of the hind limbs is the usual seat of weed, but not uncommonly a fore limb is affected. The disease apparently begins in the absorbent glands, hence the inguinal on the inner side of the thigh and brachial on the inner side of the arm glands are those affected. The local signs are preceded by tenderness and cording of the lymphatic vessels, and then the swelling begins, extending from above to below, so that the limb may assume

huge dimensions; in fact, it often becomes so large that the animal is unable to draw the limb forwards. Fortunately for the horse the local signs do not prevail long—not usually more than a few days—provided that the animal is treated in accordance with the correct principles of medicine. Fever, loss of appetite, and slight colicky symptoms are not uncommon, but usually abate when the swelling retrogresses. Exercise sometimes does good, but not always, though it would appear to be perfectly correct to exercise the animal, because the muscular movements are important factors in aiding the circulation of the lymph. When a horse has had one attack it is very prone to a recurrence of it, so that in course of time the limb becomes permanently enlarged, due to organisation of the inflammatory products. In the treatment of this disease it is necessary to give a dose of purgative medicine, but it is better to have professional advice.

EPIZOOTIC LYMPHANGITIS.

This must not be confounded with the preceding disease, because it is totally different from it, being more akin to glanders, especially when the skin and absorbent vessels are implicated in the

latter disease. Epizootic Lymphangitis first appeared in this country during the late South African War, and in order to prevent its extension in Great Britain, the Board of Agriculture wisely made it a notifiable malady, hence its existence or supposed existence on any premises renders it necessary to acquaint the nearest Local Authority.

CAPE HORSE SICKNESS.

Cape horse sickness is responsible for an enormous number of deaths amongst the horses of Cape Colony, and other parts of Africa. Imported horses are more liable to become victims to it than native bred animals, though there is no immunity in this respect. It assumes two forms, namely, one in which the head and tongue are specially implicated, and the other the lungs are the main seat of the disease. It is unquestionably due to some form of living organism gaining admission into the system, and it would appear to be that this is generally taken into the economy whilst the animals are upon the land, before the dews have been driven off the grass with the heat of the sun, hence it is customary for South African farmers to keep their horses

in kraal until the excessive moisture is out of the grass. A moist warm season favours the appearance of this disease, which is an extremely fatal malady, death often taking place within a few hours of its onset.

MANGE.

There are three forms of mange affecting the horse, each of which is due to a different species of animal parasite; thus we have the sarcoptic, the psoroptic, and the chorioptic, and each parasite seems to have a preference for attacking individual parts, though the two forms first named are both liable to invade large tracts of the skin. But the last-named variety confines its depredations to the lower portions of the limbs, only occasionally extending above the knees or hocks, producing one form of grease, which is a troublesome and annoying skin disease usually seen about the heels and fetlock, giving rise to a great deal of irritation and a nasty sticky feeling to the hair and skin in the regions mentioned. The commonest form of mange is the psoroptic, and it is the most communicable one from horse to horse, and occasionally to man, although in the last-named it is only of a temporary nature. Some Local Authorities make mange a notifiable

disease, because it is exceedingly contagious, and may be the means of seriously interfering with commercial transactions, but this only applies to the two forms first-named. If a horse has a skin disease it is expedient, as an ordinary measure of precaution, to separate it from other members of the stud, and treat it as though suffering from mange. The hands of grooms, their clothing, the clothing of horses, mangers, stall-posts, and all grooming and fitting appliances, are capable of acting as media for the transference of the parasites, so that this shows one how necessary it is that all such agencies should be thoroughly cleansed with hot water containing some strong disinfectant. Sulphur and oil, to which a little oil of tar has been added makes a capital mange dressing, and ought to be rubbed well into the diseased patches with a stiff brush two or three times a week, with an occasional washing of soft soap and water. Beneath the mane, forelock and tail are common situations for mange to make its appearance, and it is early indicated by irritation, to relieve which the animal is constantly rubbing. The appearance of mange is favoured by negligence and poor condition, but it must be borne in mind that once a horse becomes mangy it is not very long before its constitution becomes under-

mined, and this is one of the reasons why mangy horses look as though they were only half fed, and a sympathetic owner may easily be deceived in his deductions as to the attention the animal is receiving.

CRACKED HEELS.

Horses are often troubled with the skin in the hollow of the heel becoming inflamed and cracked, and if this condition is neglected it is liable to lead to lameness. Cold and moisture certainly favours it, so that when the streets are covered with snow and it begins to thaw, cracked heels also make their appearance. A frequent cause is washing the legs, or allowing the legs to get wetted in ponds, etc., without seeing that they are properly dried afterwards. It frequently proves a troublesome disease to deal with, because there is so much movement at this part. The best plan is to keep the animal in the stable for a few days, and dress the heel with four parts of glycerine combined with one part of Goulard's water, fixing this on with tow and a bandage. Boracic acid ointment is also useful.

OPHTHALMIA.

Inflammation of the mucous membrane lining the eyelids is not an uncommon complaint, gener-

ally resulting from the entrance of a foreign body, such as a particle of chaff, etc., gaining admission between the eyelid, and setting up congestion, which, if allowed to go on unchecked, ends in partial, or it may be complete blindness. The cornea becomes opaque, and tears flow over the eyelids down the face. Sometimes inflammation of the eyes is produced by a blow such as a stroke from a whip, and the mark of the lash of the latter is occasionally left as an imprint upon the cornea. All diseases of the eye demand skilful treatment, so that it is the most economical method to have professional advice. The earlier the better.

CHAPTER XI.

DISEASES AFFECTING THE BONES, JOINTS, AND TENDONS.

THE horse is particularly subject to diseases and injuries in connection with bones, joints, tendons, and ligaments, more especially of the limbs. Many of these diseases are spoken of as being hereditary, such as splint, spavin, ringbone, etc.,

but there is no doubt that the theory as to the hereditary transmission has been considerably over-estimated, and that many of these are purely the outcome of accidental circumstances. The nature of the horse's work naturally renders it particularly liable to sprains, bruises, etc. Peculiarity of conformation and youth are predisposing factors in the production of injuries and disease. When a horse arrives at five or six years old it is very much less liable to become lame, say from splint, etc., than one about three or four years old. The principal injuries, etc., are briefly referred to in the following paragraph:

FRACTURES.

In the majority of instances, when a horse is unfortunate enough to have any portion of its anatomy broken, especially the bones or the limbs, the destruction of the animal usually becomes necessary, age exercising little influence in horses over the ultimate results. A fracture may be "simple" or "compound." In the former case the bone is merely broken either transversally or obliquely, whereas in the latter there is a wound in communication with the fracture, which, of course,

complicates matters and renders the injury all the more serious. Sometimes a fracture is accompanied by a displacement or dislocation, which further adds to the gravity of the injury. The absence of flesh below the knee and hock of the horse, constitutes one of the chief hindrances to the union of a broken bone in these situations, whilst the difficulty in keeping the parts at rest is often insurmountable, though the writer does not wish to imply that union never occurs in, say fracture of the cannon bone, because this would be incorrect. When an injury is accompanied by a wound in the skin, the sooner the animal is put out of the way the better. Split pastern is not an uncommon fracture in the horse, and it is very often in the form of a comminuted fracture, which means that the pastern bone is broken into a number of small pieces, though as a rule fractures in this bone are in an oblique direction, and it is astonishing what a simple cause sometimes leads to the production of this injury. Although a fractured pastern is capable of repair, if the animal is placed under favourable conditions, it is a fairly general practice amongst veterinary surgeons to advise destruction of the animal. If it is decided to give treatment

a trial, the fracture must be kept in its proper position by means of an adhesive bandage, and the horse given at least three months' rest in the slings. A fracture of this nature is, as a rule, difficult to detect, because there may be no displacement. In most fractures displacement occurs at the time of injury, but not always. When this is the case, the fracture is spoken of as "deferred." The cardinal signs indicative of a broken bone are:—Crepitation, i.e., the grating of the broken ends of the bones together, and pain on manipulation; swelling; increased heat; lameness; or it may be complete paralysis of the part below the seat of injury. Any or all of the foregoing may be absent. When a bone belonging to the spinal column is broken, paralysis below the seat of injury is generally present, and accidents of this nature demand immediate destruction of the animal. Although in a very sheltered position, lying as they do enclosed within the hoof, either the coffin bone or the navicular bone may be fractured, both of which may be taken as hopeless injuries. The pelvic girdle is not uncommonly the seat of fracture, and it is always necessary for a horse to have from three to six months' rest in the slings if a favourable

issue is anticipated. All fractures require at least six weeks for the reparatory process to become complete, but much longer periods are necessary for horses, more especially when the part that is injured cannot be adjusted by means of splints or bandages. Fractures of the shoulder-blade, arm, and forearm, are not rare injuries, but certainly nothing like so frequently met with as fracture of the second thigh bone or tibia. This is really a fairly common accident, especially during the summer, as nine out of every ten cases are produced by one horse kicking another, and singular though it may appear, such kick is often delivered on the second thigh a few inches above its junction with the hock. When the kick has been a heavy one the bone is generally broken right in two, and the limb swings backwards and forwards, though in some cases there is no displacement. As a rule immediate destruction of the animal is necessary. In all cases of suspected fracture the owner should obtain professional advice at once, this being the most economical, as well as the most satisfactory.

WOUNDS.

As in all other animals, a horse is a frequent sufferer from wounds, and it is a very difficult

matter in this animal to keep such injuries from being further injured or infected in some other manner. Wounds about the feet are particularly dangerous, being specially liable to become infected, while such diseases as lock-jaw and blood-poisoning not uncommonly result. When a wound is situated about a joint, especially if it is a punctured one, the synovial capsule of the joint may be opened, and then the "so-called" open joint results, which is a most troublesome injury to deal with, necessitating the veterinary's skill at once. The size of a wound is no criterion as to the ultimate issue, because the most trivial wound is sometimes followed by the death of the animal. Probably the commonest form of wounds about the feet are those produced by picked up nails, which seem to have the unhappy knack of penetrating the sole, and injuring the sensitive structures within the hoof. Sometimes the nail is not discovered until the owner is compelled to take the animal to the forge and have the foot searched, owing to severe lameness. By this time suppuration has generally become fairly well established, and is probably on the eve of breaking out at the coronet, which further increases the trouble. Another very common class of in-

jury is the so-called saddle or collar galls, usually the result of an ill-fitting collar, saddle or pad, though some horses, more especially when they get in poor condition, are predisposed to this kind of injury. In the treatment of such the first thing to attend to must be to have the harness properly adjusted, so that the cause will, as a rule, be removed. Padding the collar with a piece of sheep's skin, or hollowing it out so as to remove the pressure, is useful in some cases, whilst a good preventative is to leave the collar, saddle, etc., on for about an hour after the animal comes in from work, or until such time as will allow the over-heated part of the skin to gradually cool down, as it is the sudden change from heat to cold that is one of the causes of the skin congestion. There are, however, other causes, such as a bruise, -and when this is situated on the poll it may end in what is called "poll evil," whereas if situated on the withers, in "fistula" of the withers, both of which diseases are extremely troublesome to deal with, and demand the exercise of professional skill, supplemented with considerable patience. Many of the wounds in horses are of an extensive nature, more especially when produced by such agencies as a shaft, which not

uncommonly penetrates into the cavity of the chest, and perhaps wounds the lungs, etc., if so pleurisy may result. Wounds about the quarters, if extensive and deep, necessarily expose a great deal of flesh, and when swelling comes on, if a wound has been stitched up, the tension on the stitches becomes very great, consequently such are torn out, no matter whatever ingenuity be adopted with a view to preventing this. Veterinary surgeons employ special sutures in cases of this kind. Broken knees are a common form of injury, but the extent of damage done is variable, ranging from the most superficial abrasions to one involving the bones of the joint. When the skin has been broken, either of one or both knees, a considerable amount of swelling will generally come on by the following morning, therefore, in order to prevent this, it is expedient to apply a cooling lotion for the first 48 hours, such as:—8 ozs. of methylated spirits of wine, combined with 2 ozs. of Goulard's water, and a pint of distilled water. Keep the injured part freely wetted with this three or four times a day. A little exercise is generally beneficial, unless the injury is a deep one, and then exercise becomes prejudicial. All wounds require thoroughly

cleansing immediately they are inflicted, and for this purpose there is nothing superior to water with a little carbolic acid added to it, although any of the disinfectants sold may be used, in accordance with the proportions specified upon the label of the bottle.

After the wound has been cleansed, the bleeding must be controlled if excessive, and there are various methods of doing this. Sometimes cold water alone is sufficient, whereas in other cases the alternate application of hot and cold water will do it. If the bleeding is from a large vein or artery, the torn end of the vessel should be seized and a piece of silk or catgut tied around it; in technical language, the bleeding vessel must be ligatured. For sewing up ordinary wounds, boiled string or metallic wire may be used. The hair must be clipped off around the edges of the wound, and each stitch taken separately, then tied or twisted, and the ends cut off. In bullet and shot wounds the foreign body must first of all be removed, and for this purpose it is sometimes necessary to enlarge the original wound. All punctured wounds generally require syringing out night and morning. Superficial wounds may be painted with Friar's Balsam, or dressed with

oxide of zinc or boracic acid ointment. The open air treatment of wounds is one that lends itself as being the most convenient in the case of all larger animals. When the products of the injury and inflammatory action dry up on the surface, healing usually goes on beneath this, which acts to some extent as a preventative against further infection.

DISLOCATIONS.

By the term dislocation we imply that a part has slipped from its normal position, so that any organ or bone may be dislocated, but in the case of most organs it is usual to apply the term rupture to such, reserving the term dislocation for a bone that has slipped out of its place. By far the commonest dislocation affecting the joint in the horse is at the stifle, and known as

DISLOCATION OR LUXATION OF THE PATELLA, OR KNEE CAP.

This accident is common in colts, especially those that are slack in muscular development. If carefully and skilfully treated, the writer's experience is that such cases turn out fairly satisfactory.

SPEEDY-CUT.

This is an injury inflicted by the shoe of the horse on the inner side of the opposite leg just below the knee, and evidence of such is often afforded by finding one or more scars in the situation named. A speedy-cutting horse, if such is discovered at the time of examination for soundness, is sufficient cause for rejecting the animal.

SORE SHINS.

Race horses are said to be the most frequent sufferers from this injury, which arises from external violence, and produces pain and lameness. It is an inflammation of the bone (ostitis) and skin covering the bone (periostitis), frequently leading to a great deal of constitutional disturbance, and other changes in connection with the bone, etc.

SPRAIN OF THE FETLOCK JOINT.

The fetlock joint movements are principally those of flexion, the degree of lateral motion of the joint being extremely small. The bones entering into the formation of this joint are the lower end of the cannon bone, the upper end of the pastern bone, and two small detached bones

at the back of the joint known as the sesamoids. Both ligaments and tendons assist to complete the joint, and it is the structures last-named which are occasionally overstretched, or it may be cover-torn, thus constituting sprained fetlock. The treatment comprises rest, and the application of a cooling lotion, with a bandage around the joint; later on the part may be blistered.

BONE-SPAVIN.

Bone-spavin is a term familiar to everyone having the slightest knowledge of horses, but the knowledge concerning the nature of the disease, its situation, etc., exists more in imagination with a large proportion of those who profess knowledge concerning it. A peculiar but common name applied to bone-spavin in certain districts is prefixed by the word "jack," meaning jack spavin, the origin of which expression is doubtful. When spavin is present it is situated upon the lower and inner aspect of the hock joint; in other words, just at the top of the cannon-bone, its position varying but slightly. In every instance it constitutes unsoundness, but, just as in the case of splint, veterinary surgeons are not agreed as to the significance attachable to it. Thus, for

instance, some practitioners will pass a horse as practically sound, provided that the animal is required for slow work, is over five years old, has well-formed hocks, and is free from lameness. In this case the examiner considers that the animal has a hundred-to-one chance of remaining sound. The large proportion of horses that have hocks spavined, though otherwise of good conformation, may in a measure explain the system adopted by many veterinary surgeons; but as a safeguard, both for the examiner and purchaser of a horse, it is always desirable to reject a horse having the slightest suspicion of this disease. Qualifying statements made by a practitioner at the time of examination will not, legally, discharge his responsibility to the purchaser; hence it is expedient to act in accordance with the law relating to warranty. More significance is attached to spavin in a horse required for fast work than in a cart horse. Bone-spavin may be defined as a chronic inflammation of the bones entering into the formation of the hock-joint, an inflammation in which the cartilage, ligaments, and synovial membranes may participate. In old horses, the disease usually runs on to destruction of the articular cartilages forming the joint, all

attempts to repair being useless. In young horses, on the other hand, inflammation usually produces a salutary effect, the individual bones of the hock-joint becoming sealed together by deposition of inflammatory products, which serves to strengthen the joint, but diminishes the action of the hock. There is a form of disease attacking the hock, known as occult spavin, i.e., a disease attacking the individual bones of the hock. This disease, though it cannot be discovered by manipulation, is sometimes so severe as to produce a most intractable lameness, and when once it is established, it may be regarded as incurable. There is another form of spavin spoken of as blood-spavin, which consists of a distended condition of the vein as it courses over the inner aspect of the hock. It is not of any significance.

Bone-spavin may affect one or both hocks, and when both hocks are the seat of the disease, there is a difficulty, more especially if the enlargements are fairly uniform, in deciding whether it is the normal conformation of the hocks, or otherwise. Some horses are either continually or intermittently lame from spavin, the lameness being denoted by its increase following rest. For instance, a horse with spavin lameness will come

out of a stable very lame and stiff about the hock, but as soon as the animal gets warmed to its work the lameness gradually disappears. There is a want of free flexion and extension about the joint, and if the spavin is forming, there will be increased heat, pain, and swelling over the part. If the joint is forcibly flexed with the hand and held in this position for a minute or two the animal evinces pain, but this test is not a very reliable one. The best method of detecting spavin is to view the hocks obliquely, standing in front of the horse, just behind the shoulders, when any difference in size is usually readily discernible. A method about as good is to compare the hocks with the fingers of the same hand, when any difference in size will at once be apparent. It is thought that the so-called "tied-in" hock, that is narrow at its junction with the cannon-bone, is predisposed to become affected with spavin, but in all probability the conformation of the hock has very little to do with the production of spavin. Hocks that are over-bent or turned out are thought by some to be particularly liable to become spavined. External injuries, such as sprains and blows, may bring on spavin, and it is probable that rheumatism is another cause. The size of

the spavin, i.e., the legacy of the previous inflammatory action, affords no evidence as to the degree of lameness which it may produce. For instance, a very large spavin may produce no lameness at all, whereas a small one will probably give rise to a severe degree of lameness, and it is, consequently, impossible to prognosticate whether lameness will or will not make its appearance.

Treatment.—One of the first essentials in the treatment of a horse going lame from spavin is absolute rest, say for three months; and in order to facilitate the requisite rest in the joint, it is advisable to try to excite a fresh reparatory inflammation, which can be done, in some cases at least, by the application of the hot iron, preferably in the form of points, pressing the firing-iron deeply into the new growth, and in forty-eight hours blistering it. Line-firing is very often employed, but it leaves more of a blemish than the other method. Blistering alone is seldom of much use. This, of course, is the work of the veterinary surgeon, and should never be attempted by the amateur. Firing beneath the skin has also been employed, and an operation sometimes resorted to is that of opening the bursa of the

terminal tendon of the flexor metatarsi. The aim of this operation is to excite a fresh inflammation, so as to assist repair. Whatever method of treatment be pursued, rest is an indispensable factor, and unless the proprietor is willing to give about three months for the horse's benefit, it is of very little use to do anything, and recurrent attacks of lameness brought on through work will almost certainly lead to a permanently incurable condition.

WIND GALL.

Situate in the neighbourhood of joints, or actually participating in the formation of the joint, there are small lubricating sheaths and projections known as Bursæ, which serve to lubricate the free play of the tendons over the joint, and also secrete what is popularly known as joint oil, an albuminous fluid, allied to the white of egg. The synovial membrane of the joint also secretes the fluid. If this secretion becomes excessive it causes the part to become puffy or distended as though filled with air. This commonly occurs at the fetlock, hock, and various other situations, but when at the former it is spoken of as wind gall, and when at the hock is known as bog

spavin. These swellings seldom do much harm, hardly ever causing lameness, but if they become large, the free play of the joint may be interfered with, whilst the swelling at the fetlock predisposes the part to injury, and in this way other developments may arise. In any case, wind gall is a blemish, and very often arises through working a young horse too early. A puffy condition, of any of the joints, may be looked upon as a sign of hard wear.

SPLINT.

Splint is an extremely common disease, more especially in the lighter classes of horses. Young horses are particularly liable to develop splint, and, in many cases, this is due to negligence on the owner's part, through leaving the feet to grow just as they like, during the season of colthood. When young horses are at pasture, it is advisable to have the feet seen to at periodical intervals, say once every six weeks.

Unequal distribution of pressure, is one of the principal causes of splint, and it only requires *predisposition* to favour its development. The usual situation for the splinty deposit to make its appearance, is upon the inner and back part of the cannon-bone, generally about four inches below

the knee; but by no means is such confined to this situation, in fact it commonly appears removed from this position. The worst place is when it is close to the knee, because it is very liable to cause lameness in this position, and such lameness is generally of a very intractable nature, thus rendering the animal of very little service to its owner, and there is a constant liability for the lameness to recur, if even the animal has periods of freedom from lameness. Splint is usually accompanied by lameness during the time when the splinty deposit is being formed, and the splint represents the legacy of the inflammatory action. There may be a single splint, or there may be numerous ones; in other words, it may be a simple or compound splint. The form of the splint varies, sometimes being elongated. If so, it is usually situated between the back of the cannon and either the inner or outer splint bones, the latter being two slender rods of bone extending from below the knee to a little below the middle of the cannon-bone, ending in button-like projections which the amateur usually confuses with splints. Sometimes the back of the cannon-bone is a mass of splinty deposits, irregular in their outline. A singular feature in

connection with splint is that of its spontaneous disappearance in many old horses, though the re-absorption of splint is not generally known. When splint occurs in heavy horses it is not customary for veterinary surgeons to look upon it as a serious defect, but in any horse required for moderately fast work it is a general practice to reject such when examining as to soundness, because the difficulty is as to how long the animal may remain sound. When splint occurs on the outside or front of the cannon-bone it is not looked upon as being in a favourable position, because any injury may set up a fresh inflammation, and in this way the animal will be thrown off its work. The treatment for splint comprises rest for several weeks, and point-firing it, or the daily application of some blistering ointment. Splint lameness is characterised by such being most marked when the animal is trotting, and it may be that additional evidence is found at the seat of splint in the form of increased heat and pain on manipulation. Obscure forms of lameness in the fore limb or limbs are occasionally due to very minute splints beneath the knee, which are extremely difficult of detection.

BRUSHING OR INTERFERING.

This is an exceedingly common form of injury, and it is confined to the skin on the inner side of the fetlock, either of the near or off hind leg, or it may be both. It is due to the edge of the shoe of the opposite foot striking the part, and when it goes on for any length of time it leads to thickening of the skin, and in some cases severe lameness results, with an acute inflammation around the fetlock joint. It is an injury that often causes a good deal of annoyance to horse-breakers, because green horses are particularly liable to it, and when they get into their proper paces perhaps no further damage results. Peculiarity of conformation of the hind limbs has certainly a good deal to do with interfering, and it does not matter whatever way the horse may be shod, when this is present nothing will prevent it, unless it be the application of a fetlock boot, rubber ring, or some other contrivance, which acts as a mechanical prevention.

BRUISED CORONET.

The coronet is the projecting band encircling the upper part of the hoof wall, and when it is

injured it generally causes extreme lameness, some constitutional disturbance, and pain on manipulation. The severe pain is due to the non-yielding nature of the part. Bruises of the coronet are commonly caused by the animal treading upon it with the shoe of the opposite foot. This injury requires professional skill for its treatment, but in the meantime the foot may be fomented with hot water.

QUITTOR.

The preceding injury, i.e., a tread on the coronet, is occasionally followed by this diseased condition, though by far the most frequent cause of it is a puncture in the foot, either as a picked up nail, or one falsely driven during shoeing. Matter accumulates within the foot and makes its exit in the direction of the least resistance, which is at the coronet, here forming one or more minute circulating points with channels or sinuses passing into the interior of the foot. It is this which constitutes quittor. It must be mentioned that a suppurating corn occasionally ends in this manner. Professional treatment is required, as it is a matter for surgical knowledge.

SPRAIN OF THE BACK TENDONS.

All classes of horses are liable to this accident, and it often necessitates a prolonged rest before the animal is fit to work again. The tendons or the ligaments, in either the fore or hind limbs, between the knee and fetlock, or hock and fetlock, are the usual situations for such injury to occur. When a sprain has been in existence for any length of time, or the same part being repeatedly sprained, the sprain becomes chronic, which is indicated by thickening and shortening of the tendons or ligament, causing the animal to draw upon its toe, as commonly observed in the hind limbs of cart horses. In a case of recent sprain, the animal must be kept in the stable, and the part bathed with cooling lotion, or cold water for the first 48 hours, to which a little sal ammoniac has been added. Chronic sprains, require either firing, or blistering, or it may be an operation. Sprains in other parts, are commonly remedied by rubbing with some embrocation, and apparently often benefit by this treatment.

RING-BONE.

Although this diseased condition is popularly known under this title, it is usual to find it

assuming various modifications of the ring-like formation, from which the term has been derived. Ring-bone often appears as a variable-sized deposit of bone upon the front, back, or sides of the pastern, most frequently on the fore limb or limbs, though not uncommonly on the hind ones. Sometimes the ring-like formation is visible at a glance, immediately above the upper border of the hoof. It destroys the integrity of the joints in this situation, necessarily being sufficient to condemn any horse, though not always accompanied by lameness, and veterinarians are well enough aware that the size of a ring-bone is no criterion as to the existence of lameness. Just as in the case of bone-spavin and splint, one may have a very large deposit of new bone without any accompanying lameness, whereas in other instances the new bone may be apparently insignificant yet productive of the most intractable lameness. Cart horses are very subject to ring-bone, and many believe that the disease is of an hereditary nature, refusing to use either a sire or a dam affected in this manner. Concussion and external violence are the chief causes of ring-bone, but in all probability some are of rheumatic origin.

CURB.

This appears as a convex swelling a few inches below the point of the hock, and parallel with it. One or both hocks may be curby, and the curbs varying in size, but no matter however small, if curb is present it can readily be seen by viewing the limbs in profile. Both light and heavy horses are liable to have curb, and it is usual to regard it as constituting unsoundness, though it is seldom a cause of lameness. Firing and blistering seem to be the best methods of removing it, only such requires to be repeated several times.

CAPPED-HOCK.

Capped-hock comprises a swelling either of an acute or chronic nature at the point of the hock. It may or may not be looked upon as an unsoundness, so much depending upon the structures implicated and the causes that have been or still are operative in its production. In the simplest cases the skin only is implicated, whereas in others the bursa and os calcis, or point of the heel (hock), are sometimes affected. In every case this injury is due to a bruise, either recent or continued. If recent, it will be accompanied by

the active signs of inflammation, namely, increased heat, pain, swelling, and a variable degree of lameness, all of which are absent when capped-hock has come on gradually. Night kickers and horses that kick their stall posts in the daytime, likewise kickers in harness, and pressure on the points of the hocks during lying and rising, are the principal causes of this injury. In every instance a capped hock (or hocks) must be looked upon as a blemish, destroying, as they do, the beauty of conformation in this region.

CAPPED ELBOW.

At the point of the elbow there is a synovial bursa, and this is very liable to be bruised with the heel of the shoe if the latter is left a little too long; but capped elbow arises from other causes. As the result of the bruise, the bursa becomes inflamed, and swelling at the point of the elbow occurs. This may take place in a single night, and owners are sometimes surprised to find a very large swelling on the point of the elbow on the following morning. If precautions are not taken to prevent a recurrence of this injury, the irritation leads to thickening of the skin and underlined tissues, culminating in the production

of a fibrous tumour, for the removal of which surgical measures are necessary. In some cases the skin gets broken, and suppuration occurs, whereas in others the tumour contains a fluid, and collapses on puncturing it.

THORO PIN.

The term thoro pin is applied to a swelling situated at the back and just above the point of the hock, and as this swelling can generally be pushed from the inner to the outer side, or vice versa, it has thus derived its present name. It is very rarely that it causes lameness, but if large constitutes a blemish.

CHAPTER XII.

DISEASES AFFECTING THE FEET.

INTRODUCTION.

THE foot of the horse is liable to become affected with various diseases and injuries, and not a few of these are of a progressive and incurable nature, so that it behoves all those purchasing horses to pay particular attention to the feet, inspecting each one critically, as it is quite an easy matter

for the uninitiated to overlook defects of the most serious nature. If a horse has not sound feet, its commercial value is materially diminished, whilst its capacity for work may be not only diminished, but completely abolished. It is an old, but nevertheless true, axiom, "no foot, no horse," and this should always be borne in mind. The term sensitive foot is applied to all portions of the foot lying within the horny box, or insensitive foot. Disease may begin in one structure and subsequently involve both, but diseases which arise within the sensitive foot are necessarily attended with more serious results than those confined to the insensitive part of the foot. The wall or hoof is united by numerous leaf-like folds, known as the laminæ, to corresponding ones upon the sensitive foot; the former are termed insensitive laminæ, and the latter sensitive. In one disease, known as founder, especially the acute form of the malady, this bond of union often becomes separated through the inflammatory action, and in this way the foot is permanently damaged.

LAMINITIS, FOUNDER, OR INFLAMMATION OF THE FEET.

Foot founder, as it is popularly termed, is a very common complaint in a horse—much com-

moner than it ought to be. All classes of horses are subject to it, and one attack renders the animal liable to a secondary one, more especially if the first has been of a severe nature. One or the whole of the fore feet may be affected, but commonly it is both the fore or else all four feet. The disease consists of inflammation of the sensitive laminae, and as these structures are enclosed with the horny hoof—which is practically a non-yielding structure—it becomes an extremely painful malady, and anybody once having seen a horse with acute founder ought to experience no difficulty in the recognition of the disease on future occasions. It assumes both acute and sub-acute forms, but both are disastrous to the feet. The chief causes of founder are as follows:—Concussion, over-driving, feeding on wheat; and as a sequel to parturition, the last-named being often spoken of as “Septic Laminitis,” because it arises through septic infection occurring after the delivery of the foal. The leading symptoms are fever, blowing hard when the animal is made to move, and an effort to throw the weight of the body upon the heels, by placing the fore feet as far forward as possible. When the hind ones are affected, these are drawn forwards under the

belly. In order to detect whether a horse is foundered or not, all one has to do is to push the animal a little back, when it will be observed that the patient seems as though it were riveted to the ground; in any case the heels are brought to the ground first. The internal temperature will be about 105, and the mucous membranes redder than in health, whilst the pulse will be found oppressed. Thirst, loss of appetite, and other signs of ill health are present. With reference to treatment, much will depend upon the time the disease has been in existence. The writer believes it is always advisable to remove the shoes, and place the feet in poultices of either hot or cold bran. In the early stages cold is probably preferable, but after about 48 hours hot poultices appear to be more suitable, though veterinary surgeons are not at all unanimous upon this matter. It does not matter much whether hot or cold water be used, but it is very important to keep the feet very wet. Sometimes there is a difficulty experienced in removing the shoes, so it is better to ask the shoeing smith to come to the stable for this purpose. As the horse will be very thirsty, it must be allowed plenty of cold water to drink, and the addition of a little nitrate of potash and Epsom

salt will do good. Keep the horse in a loose box, with a bed of short straw, so that it can take a certain amount of exercise. If the bowels are acting freely there will be no need to give a purgative. Bran mashes, soft food, or green meat (clover, etc.) should be given as food. As soon as the horse gets sufficiently well it ought to be turned out into a wet pasture for three or four months.

CANKER OF THE FOOT.

This is a very troublesome disease, affecting one or more of the feet, though very commonly the hind one. The horny sole and the frog are chiefly affected, but in advanced cases the disease extends to the wall of the hoof. It is easily recognised by the offensive odour and the fungoid light growth springing from the sole, usually giving rise to lameness. The disease may be kept in check, but is practically incurable.

THRUSH OF THE FOOT.

Thrush is a disease which makes its appearance in the cleft of the frog, commonly affecting both hind feet, though often the fore ones. In some instances it is due to neglect, being set up by

decomposing excretions lodging in the cleft of the frog. Thrushy feet are easily recognised, first by the offensive odour, secondly by suppuration in the cleft of the frog. The treatment comprises keeping the feet clean, and keeping the stable floor clean, combined with the employment of a conscientious groom. Wash the feet with some antiseptic, and then fill in the cleft of the frog with boracic acid powder and tow, or some other agent of an allied nature.

SANDCRACK.

Sandcrack is a disease affecting the wall of the hoof, either of the fore or hind feet. When in the fore foot it is generally on the inner quarter, the reason of this being that the wall is here the thinnest. In the hind feet it usually appears at the toe, and may begin on the inner or outer wall of the hoof, but the split always extends from above to below; the small cracks so often seen extending from the lower border of the wall in an upward direction are not in reality sandcracks at all, but simply splits from overgrowth of the hoof wall. Sandcrack is due to an imperfect secretion of horn, and when it extends completely through the wall of the hoof it often gives

rise to severe lameness. A brittle hoof favours the appearance of sandcrack, and so does false-quarter. The treatment comprises rest, the removal of the pressure over the seat of the crack, obliteration of the crack by firing, with subsequent blistering of the coronut. In cases of lameness it is customary to clasp the sandcrack, for which purpose special nails are sold. It is often a troublesome matter to deal with this disease, and, needless to add, sandcrack constitutes unsoundness.

FALSE-QUARTER.

The term false-quarter is applied to an indentation or furrow in the wall of the hoof at the quarter. It is detrimental to the hoof, rendering it more liable to split. For the purpose of deception this indentation has been known to be filled in, but there is no difficulty in detecting the artificer's work.

SIDE-BONE.

Heavy horses are most frequently affected with this disease, although the lighter breeds are by no means exempt. It is much more detrimental to the latter than to the former, though in both it is looked upon as an unsoundness. The fore

feet—sometimes one and sometimes both being affected—are the seat of side-bone. At the back and upper border of the hoof, and attached to the coffin-bone within the hoof, on the inner and outer wings of the latter are a pair of flexible plates of cartilage or gristle, which can readily be felt to yield under the pressure of the thumb when the upper border is pressed at its extreme back part. Either one, both, or all four plates may be changed into a bony-like substance, so that when pressed they lose their elastic resistance. This constitutes side-bone, and such often causes prolonged lameness; but if a cart horse has feet well open at the heels, and has turned five years of age, the chances are that it will continue to remain sound.

NAVICULAR DISEASE.

As far as veterinary surgeons are aware, this disease is entirely confined to light horses, but unfortunately for the subjects of it, it is an incurable malady, and one that not only causes permanent lameness, but also renders the animal valueless, unless it be to do odd jobs on soft ground. It is a disease that affects the navicular bone, tendon, and other structures in connection

with the navicular joint, which latter is situated at the back of and within the interior of the hoof. The lameness in this disease is sometimes removed by an operation known as unnerving, but this has no influence over the disease, merely blindfolding the lameness by destroying the sensation of the foot. Horsemen commonly speak of such an animal as a "grog," and its action as "groggy."

CHAPTER XIII.

HORSE SHOES, PADS, AND LEATHERS, ETC.

SINCE the introduction of machine-made shoes, the shoeing of horses has been simplified, and most of the large farrier shops in London and other cities employ machine-made shoes to a large extent, although not exclusively. In the majority of country farrier shops hand-made shoes are principally used, whilst the manufacture of new shoes out of the old ones is a practice still employed, but chiefly to fill up the spare time of the smiths. Making new shoes from the old scrap has advantages, but mostly in favour of the wearer. When a horse wears away its shoes

out of proportion to the length of time they have been in wear, it is more economical to make them out of the old material, and if necessary weld on a piece of steel at the toe. Rodway shoes are greatly used for the lighter classes of horses, and answer their purpose admirably; the fullering is either single or double, and this, for a ground surface, is a material assistance in preventing slipping. The length of time that a horse will carry its shoes varies considerably; some horses will wear out a set of front shoes within a week, whereas others will carry them for four or five weeks, but on the average a horse requires shoeing about every three weeks. It is not advisable to leave the shoes on longer than a month, in fact, they ought to be removed about every eighteen days, the feet pared, and the shoes either re-applied or a new set fixed on. It is the rule for the front shoes to wear out faster than the hind ones, and the part of the shoe that generally suffers the most wear is at the toe, the wear of which may be excessive in proportion to the worn surface at the quarters and heels. Some horses require special forms of shoes, owing, it may be, to disease of the feet, or to some peculiarity of action. Unquestionably the correct

form of shoe is that having a flat ground surface, without any calks at heel or toe, both of which alter the normal position of the limb and its relationship as a weight bearer to other parts of the body. In the case of heavy horses, more especially when working in towns or hilly districts, it is absolutely necessary to have heel calks, which certainly give the animal a better grip of the ground. For light horses there need be no excuse for raising the heels, at any rate in the case of the fore shoes. A leather sole is employed when a horse has either a flat horny sole, disease of the sole, or some other defect which renders the feet tender. Some horses are unable to perform their work satisfactorily without they are shod in this manner. It is customary for the shoeing smith to pack in tow and tar between the leather and horny sole, which further diminishes the defects of concussion and prevents the entrance of sand and other material between the two surfaces. Various forms of indiarubber pads are largely used in London and other cities. They always exert a more or less injurious influence upon the foot, and the writer does not recommend their employment, excepting under special circumstances. Some coachmen in

London will even use both pads and screws in the summer time, a practice which cannot be too strongly discouraged. There are numerous makers of rubber pads, some of which are of very little use, and others the reverse of this. It is seldom that heavy horses are shod with pads, the expense being one of the principal reasons, together with the fact that these animals perform their work at a slow pace. Shoeing with pads, or even leathers, becomes an expensive item, and not being necessary, as a rule they can be dispensed with, at any rate in the summer time. They cause the horny sole to become soft and overheated, whilst the frog or foot pad gradually shrinks, owing to its weight-bearing functions being diminished. It is this structure and the wall which constitute the principal weight-bearing surfaces, and nothing should be done to the foot to diminish or destroy the purposes for which they have been designed. It follows that the shoeing smith ought never to pare the foot pad, which, unfortunately for the horse, many shoeing smiths are very fond of doing. When the ground is slippery it is necessary to resort to the use of frost cogs for light horses, but frost nails are useful for a single journey. Screw studs are those



THOROUGHBRED HORSE.

Photo by G. H. Parsons.



now generally employed, and all shoeing smiths keep a stock of these in the winter, with a screw tap for fixing them in. The studs should be removed directly the horse comes into the stable, although many owners leave them in until they are worn out, which is an extremely bad plan. With cart horses it is customary to adopt what is called "roughing," that is turning the heels of the shoe up and sharpening them, and during prolonged frost the shoeing smith makes more money than at any other season of the year. But no one need begrudge him the extra benefits, considering the laborious nature of his work, to say nothing of its attendant dangers, and the high prices he has to pay for iron, nails, etc.

CHAPTER XIV.

HORSE BREEDING.

THAT horse breeding in Britain does not receive the attention that it ought to do, few will, I think, dispute, in spite of the numerous warnings given to the Government with a view towards making adequate provision for the supply of suitable animals in time of war—the necessity for which

will ever remain indelibly fixed upon our minds since the last Boer War.

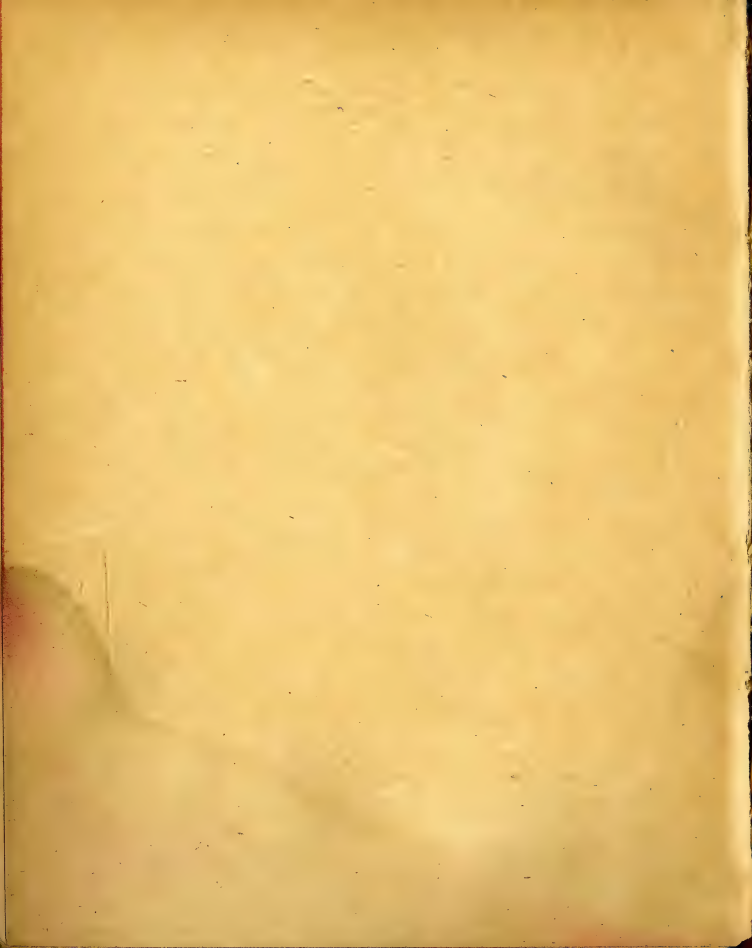
Moreover, the demands made upon the various sources—'Bus Companies and Contractors—under pressure of circumstances, is certainly not the right manner for a large Army to be horsed, to say nothing of the inconvenience caused by the demands upon such Companies, who are probably powerless to replace the horses removed from their studs. No doubt the Army Remount Department has undergone re-organisation since its complete inefficiency has been brought to daylight, but it is still far from approaching ideal lines. The enormous importation of foreign horses will continue to exist so long as British farmers are unable to find horse breeding to be a paying concern, and it never will be unless the Military are able to give better prices for home-bred stock.

Canadian, Hungarian, and other foreign horses are all useful animals so far as they go, but cannot reach, on the average, the qualities of the British-bred horse.

In times gone by farmers, as a rule, relied far too much upon "chance productions," consequently no reliance could be placed upon their



Photo by G. H. Parsons.
THOROUGHBRED MARE AND FOAL.



breeding operations, and such as they were, were only carried out upon insignificant lines. Thank goodness this matter has undergone wonderful improvements during the last thirty years, and such improvements have been brought through a multiplicity of channels.

The Horse Breeding Commission—like many other Commissions—have not done that large amount of good anticipated, though we fully admit it has been contributory. Private enterprise, Horse Shows, Agricultural Shows, and the annual premiums offered for stallions to travel the diverse districts throughout the country, has been the means for adjusting and regulating horse breeding operations in Great Britain.

A Society that appeals to the Author as being worthy of every support by those interested in the present and future welfare of the horse, is that known as the *Brood Mare Society*, the object of which is to supply (on loan) suitable brood mares to farmers, using only those animals that are believed to be free from the so-called *hereditary* diseases, i.e., disease thought to be transmitted, or the tendency to such, from parent to progeny. Whether this does actually occur is a debatable point, but as a *working hypothesis it is absolutely correct*, and cannot afford to be ignored.

This Society seeks the gift of suitable mares—animals no longer fit for service—and distributes such accordingly.

Doubtless the motor will have disturbed the minds of many contemplating horse breeding, but the Author insists that there is no cause for alarm, and where alarmists are chiefly found is amongst a class that have either motor interests, or else are ignorant of the horse's sphere of utility.

The question is, what class of horse is likely to be in the greatest demand, and will the demand be likely to continue? The answer is that weight-carrying hunters, park hacks, high-class ponies of all branches, light van horses, and heavy draught horses, especially Suffolks and Clydesdales.

To breed weight-carrying hunters and stout thoroughbred stallions is the best, although this class of stud hunter is now obtainable. Mate with a big-boned, sweet-tempered hunter brood mare. The best plan is to select the sire at the Hunter Show in London or Dublin.

High-class Hackney, Welsh and Shetland ponies are always in demand, and one of the right sort, say at 4 years, ought to sell for at least 35 or 40 guineas, and if a show pony it may run

into several figures. By purchasing four pony mares at, let us say 6 or 7 guineas apiece, and using a first-class Hackney pony sire, one ought to get some useful foals.

It does not pay to breed ponies that one can only get £18 or £20 for at the end of the third or fourth year, but by paying a high stud fee, ranging from 5 to 10 guineas, and using clean-legged, cobby pony brood mares, at least double the latter amount should be obtained, and in some cases trebled.

None, or practically no returns can be looked for in the way of labour from a pony up to 4 years, though in the case of a heavy horse, soon after 2 years the farmer can make use of it for light work, such as harrowing, etc., upon his farm, thus economising expenses.

It is only where there is a large tract of mountain land that low-priced ponies can be successfully reared, so far as monetary gain is considered, and in many districts it is customary to leave the ponies out all the summer and winter, and here they earn their own living entirely. From 10 to 14 or 15 guineas are the average prices realized for these mountain ponies.

At 4 years a really good Suffolk will fetch 60

or 70 guineas, and it is always advisable to stick closely to pedigree, and not mate a Suffolk, say, with a Shire or Clydesdale mare. Inter-breeding is a pernicious practice, fresh blood a beneficial one.

Use sires of good temperaments, and mares the same, as vicious propensities are, like other faults, very liable to develop in the foal, or at any rate later on.

With reference to Polo ponies, various breeds are used, and a large percentage of such have been speculative productions; but the Polo Pony Society has been, and still is, paving the way for the production of a fixed type of pony, in accordance with the requirements of the game.

A Library that should be in Every Home!

ENTERTAINING, INSTRUCTIVE,
EDUCATIONAL and TECHNICAL.

(Over Four Millions have already been sold).

- 1 **Everybody's Pocket Cyclopædia.** (Illustrations and Maps.)
Cloth, 6d.; Leather, 1s.
- 2 **Everybody's Book of Jokes.** Cloth, 6d.; Leather, 1s.
- 3 **Everybody's Scrap Book of Curious Facts.** Cloth, 6d.;
Leather, 1s.
- 4 **Everybody's Book of Short Poems.** Cloth, 6d.; Leather, 1s.
- 5 **Everybody's Book of Correct Conduct.** Cloth, 6d.;
Leather, 1s.
- 6 **Everybody's Guide to Music.** Illustrated; Cloth, 6d.;
Leather, 1s.
- 7 **Everybody's Letter Writer.** Cloth, 6d.; Leather, 1s.
- 8 **Everybody's Acting Charades.** Cloth, 6d.; Leather, 1s.
- 9 **Do You Know It; If Not, You Should.** Cloth, 6d.;
Leather, 1s.
- 10 **Everybody's Guide to Gardening.** Illustrated; Cloth, 6d.;
Leather, 1s.
- 11 **Everybody's Book of Proverbs.** Cloth, 6d.; Leather, 1s.
- 12 **Everybody's Book of Outdoor Games.** Illustrated; Cloth,
6d.; Leather, 1s.
- 13 **Everybody's Book of Indoor Games.** Illustrated; Cloth,
6d.; Leather, 1s.
- 14 **Everybody's Book of Irish Wit and Humour.** Cloth, 6d.;
Leather, 1s.
- 15 **Everybody's Book of English Wit and Humour.** Cloth, 6d.;
Leather, 1s.
- 16 **Everybody's Book of Scotch Wit and Humour.** Cloth, 6d.;
Leather, 1s.
- 17 **Everybody's Book of Epitaphs.** Cloth, 6d.; Leather, 1s.
- 18 **Everybody's Cookery and Household Guide.** Cloth, 6d.;
Leather, 1s.
- 19 **Everybody's Pocket Lawyer.** 250 pp. Cloth, 6d.; Leather, 1s.

(Continued on next page).

- 20 **Everybody's Book of Riddles.** Cloth, 6d.; Leather, 1s.
- 21 **Everybody's Book of Recitations.** Cloth, 6d.; Leather, 1s.
- 22 **Everybody's Book of Confessions.** Cloth, 6d.; Leather, 1s.
- 23 **Everybody's Guide to Poultry-Keeping.** Illustrated; Cloth, 6d.; Leather, 1s.
- 24 **Everybody's Guide to Chess and Draughts.** Illustrated; 128 pp. Cloth, 6d.; Leather, 1s.
- 25 **Everybody's English Songs and Melodies.** 192 pp. Cloth, 6d.; Leather, 1s.
- 27 **Everybody's Medical Guide.** By M.D. London. 160 pp. Cloth, 6d.; Leather, 1s.
- 28 **Everybody's Guide to Public Speaking.** Cloth, 6d.; Leather, 1s.
- 29 **Everybody's Guide to Photography.** New and revised Edition. 164 pp. Illustrated. Cloth, 6d.; Leather, 1s.
- 30 **Everybody's Guide to Ball Room Dancing.** Cloth, 6d.; Leather, 1s.
- 31 **Everybody's Guide to Violin Playing.** Cloth, 6d.; Leather, 1s.
- 32 **Everybody's Guide to Conjuring.** Illustrated; Cloth, 6d.; Leather, 1s.
- 33 **Everybody's Book of Parlour Games.** Cloth, 6d.; Leather, 1s.
- 34 **Everybody's Book of Anecdotes and Cleanings.** Cloth, 6d.; Leather, 1s.
- 35 **Everybody's Guide to Carpentry and the Doing up of the House.** Illustrated; Cloth, 6d.; Leather, 1s.
- 35 **Everybody's Pocket Gazetteer of the World.** Cloth, 6d.; Leather, 1s.
- 37 **Everybody's Ready Reckoner.** Cloth, 6d.; Leather, 1s.
- 38 **Everybody's Book of the Dog.** Cloth, 6d.; Leather, 1s.
- 39 **Everybody's Book on Angling.** Cloth, 6d.; Leather, 1s.
- 40 **Everybody's Book on Training and Health Development.** Cloth, 6d.; Leather, 1s.
- 41 **Everybody's Book on What to Do in 101 Emergencies.** Cloth, 6d.; Leather, 1s.
- 42 **Everybody's Book of Electricity** (Illustrated). Cloth, 6d.; Leather, 1s.
- 43 **Everybody's Book on the Rabbit.** Cloth, 6d.; Leather, 1s.
- 44 **Everybody's Book on the Horse.** Cloth, 6d.; Leather, 1s.

MADGWICK, HOULSTON & Co., Ltd.,
4 Ave Maria Lane, London, E.C.

MAKERS TO H.M. THE KING.

Fry's

PURE

CONCENTRATED

Cocoa

ESTABLISHED 1728.

THE ORIGINAL FIRM.